



MODERN GURUKUL FOR CIVIL SERVICE

UPSC

2022 ANTHROPOLOGY PAPER 1

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2022 ANTHROPOLOGY PAPER 1 QUESTIONS ARE DIRECTLY FROM OUR CLASS NOTES & MODEL ANSWERS

1. Write notes on the following in about 150 words each
 - 1a. Debate between formalist and substantivist approaches
 - Test Series- 2
 - Q) Write the meaning and scope of economic anthropology in various fields? And substantiate your view on the debate between the formalist and substantive in the present context.
 - AFC June 2022-Test 7
 - Q) Critically examine the Formalists' & Substantivists views on the applicability of Economic laws in the study of Primitive societies?

Introduction:

- ❖ Economic Anthropology is understood as ordering and organisation of human relations in order to produce necessities of day-to-day life requirements, With minimum expenditure and minimum effort.
- ❖ Economic Anthropology is defined as cross-cultural and comparative study of economic system of various societies. It is different from the study of modern economy. Whereas in Economics we usually come across terms like property rights, contracts, monetary benefits and market. But in Economic Anthropology the terms like culture, human relations, community benefits and social aspects are used.

Debate between Formalism and Substantivism:

- The debate between formalism and substantivism is explained by "Karl Polanyi" who borrowed the terms from Weber's principles of formal rationality, substantivist rationality and neutrality.
- The substantivist approach is advocated by "Karl Polanyi" and the formalist approach is advocated by "Paul Bohannan".

According to Paul Bohannan, the formalism is:

1. Individuals perceive utility maximisation by choosing between the alternatives.
2. Individuals take rational decisions in formal societies.
3. There is scarcity of resources but unlimited wants. Hence, there is a concept of demand and supply.

According to Karl Polanyi, the substantivism is:

1. Social and natural environment play a significant role without referring to rational decision making and the conditions of society.
2. A society's livelihood strategy is seen as an adoption to its environment, a process which may or may not involve utility and profit maximisation.
3. In simple societies economic aspects are integrative force within the social and spiritual systems.

Debate

- Malinowski while studying "Trobriand Islanders" understood the difference between the formal economy and substantivist economy and mentioned that the economy of this islands cannot be termed as formal economy, because there is no modern market orientation.

1.Principle of maximisation:

- ❖ All human beings want to multiply their resources with minimal inputs, which we observe this in complex societies. Whereas this is not the case in simple societies.

- ❖ Ex: kula-ring of Trobriander Islanders is best example of substantivist economy studied by Malinowski. Here, the mechanism of exchange is to enforce social relations. Whereas in formal societies social relations are least important rather profits play major role.

2.Principle of rationalisation:

- ❖ Human beings in general are empirical (scientific) in terms of profit and loss, and their activities aim at profits and not to incur losses. Whereas, in simple societies there is absence of scientific rationality but there is presence of social rationality even at the cost of profits.

3.Principle of demand and supply:

- ❖ In modern societies the prices of goods and services dependent on market forces, demand for goods-push the prices and vice-versa. Whereas in simple societies fulfilling each other needs is more important than demand and supply.

Conclusion:

- ❖ The conclusion for the debate between substantivist and formalists is given by “Neo-Marxist”. They explained that the means of simple societies and ends of complex societies should be given importance. So that the means and ends will perceive the social relations as well as profits.

1b. Mesolithic rock art in the Indian subcontinent

Test Series -10

Q) Describe the cultural evolution of India with special reference to the characteristic features of the Mesolithic culture in India with the tool culture and rock art found in the different archaeological sites?

Body:

Mesolithic Culture in India:

- ❖ The microliths in Africa and also in India are found from late Palaeolithic to metal age. It is only the accompanying cultural indicators other than the microliths which decide the finds as being from the Mesolithic, Neolithic or Chalcolithic age. Further, there are many sites where a purely Mesolithic culture is flourishing in the neighbourhood of an advanced tradition. Thus, a chronological delimitation for the definition of this culture is not helpful.
- ❖ Microliths have been noted in India and described from as early as 1863. Till the identification of this separate microlithic culture, the tools were variedly referred to as Proto-Neolithic depending on the collective character of the assemblage. A distinct microlithic site associated with shells was discovered from as far in the east as the Andamans. Microliths have been collected from almost all over India except the coastal stretch in Kerala and parts of Punjab and Haryana.
- ❖ A very few of these microliths actually come out of stratigraphic layers. Whatever knowledge we have of Mesolithic people had not only achieved their special adaptation but also settled in artificially erected structures in as early as 8000 B.C. This, in other words, can be taken to indicate that the time of onset of this culture agrees with the same in both Europe and Africa.
- ❖ So far, we have only one site with such an early date from India (Sarai Nahar Rai). The rest of the sites ranges from 5000 B.C. (Bagor) to 2000 B.C. (Langhnaj).
- ❖ Most of these sites show total adaptation to microliths and do not contain any such heavy-duty tools as picks or axes. Antlers or for that matter ivory are rarely used in Indian Mesolithic. Haematite with evidence of its having been rubbed, and spherical stone balls used as sling bolas are the other important features of the Mesolithic way of life and their hunting method.
- ❖ Some of the rock paintings discovered from Mirzapur district in U.P. and Bhimbetka could be isolated from the large number of art executions as being of Mesolithic antiquity. All these

show animal forms with isolated hunting and fishing scenes. The hunting implements are spears with multiple barbs apparently obtained easily by attaching microliths.

- ❖ At Bhimbetka there is evidence of a special structure erected outside the cave mouth to act as a wind break. At Bagor natural concrete from river bed seems to have been specially transported to the living site to pave the living floor.
- ❖ At Adamgarh, a large number of animal bones were found to be domesticated although associated finds were mainly suitable for hunting functions. The domesticated animals could not have been taken to indicate pastoral economy because there were about six varieties of mammals found in this domesticated group. Further, Adamgarh is a cave site and pastorals cannot live in caves for longer duration. Apparently, our information about this site is not quite complete. It may be representing a younger industry.
- ❖ That intergroup fight or warfare is not merely a conjecture for this period is proved by the skeleton found at Sarai Nahar Rai with a microlith embedded into one of its ribs.
- ❖ Indian Mesolithic period it is based only on the few excavated sites. The excavated sites are Birbhanpur in West Bengal, Teri sites in Tamil Nadu, Langhnaj in Gujarat, Bagor in Rajasthan, Bhimbetka and Adamgarh in M.P. and Sarai Nahar Rai in U.P.

Mesolithic sites in India are classified into:

1. Early sites
2. Recent sites.
3. The early sites have been studied in 18,19 and 20th century.
4. The recent sites have been studied in 21st century i.e., after 2000

Early sites

1. **Langnaj**---Gujarat by sankalia
2. **Bhimbetka and Adamgarh**---Madhya Pradesh by sankalia.
3. **Cauvery river basin**---tamilnadu
4. **Bagar** ---Rajasthan by B.N. Mishra
5. **Sarai nahar rai**---Uttar Pradesh

Recent sites

1. **Mirzapur**, U.P by R.K Verma.
 2. **Bidar**, K. K by H.D. Sankalia.
 3. **Chambal valley** by Joshi and khare
 4. **Langnaj** –Gujarat by sankalia: the bone tools were found in Mesolithic age. The bone tools were made up of rhinoceros bones.
 5. This site also provided geometric variety of microliths.
 6. Langnaj also provided human fossils with grave tools. This confirmed burial practices of magico-religious beliefs.
- ❖ **Bhimbetka, MP by Sankalia**: this site provided evidences of cave-living with entrance of the cave having artificial barrier (wind breaks) that are hanging from the sealing to protect himself from environmental stresses.

- ❖ **Adamgarh**: the Mesolithic site with Mesolithic tendency i.e., having evidence of domestication of animals.
- ❖ In recent sites, the evidences are less in number. At **Bidar**, geometric and non-geometric microliths are found whereas **Mirzapur and Chambal** valley produced perfect geometric tools.
- ❖ This Mesolithic age stayed for a less time in the geological time scale but it is more significant because it acted as a vehicle from paleolithic to the neolithic age.

Conclusion:

- ❖ This Mesolithic age stayed for a less time in the geological time scale but it is more significant because it acted as a vehicle from paleolithic to the neolithic age. In this way Mesolithic age of India lead to stage of neolithic stage and tribal art helped to understand the significance of culture of simple societies

1c. Radcliffe-Brown's ideas on status, role, and institution

Test Series – 4

Q) What are the major features that Separate the Cultural Functionalism of Malinowski from that of the Structural Functionalism of R.C Brown?

AFC June 2022- Test 1

Q) What Are the Contributions of RC Brown In Understanding Structural Functionalism

AFC June 2022- Test 2

Q) What are the major features that Separate the Cultural Functionalism of Malinowski from that of the Structural Functionalism of R.C Brown?

AFC June 2022- Test 7

Q) Explain the concept of 'status' and 'role' in anthropology. What is the significance of Status and Role?

Status:

- ❖ According to Ralph Linton, Status is person's social position. It is used to designate one's ranking in the social system with connotations of higher or lower.
- ❖ Every society has a system of status differentiation whereby an individual's position is defined by a social group.
- ❖ It is defined as the honour accorded (to a person or group) by the community. This honour can be accorded on several bases viz. family background, ethnicity, education, property, caste etc.

Ascribed status:

- ❖ In India, ancient Rome and China, Medieval Europe etc. a man born in a social group was given the status of that group. The status is associated by birth, the status assigned is called as ascribed status.

- ❖ An ascribed status is the one based on birth in a group, sex, age, biological relationship etc. and is accorded to the person without any efforts made on the part of the individual.
- ❖ The limits of mobility in a society where social status is ascribed are very narrow. A caste society is a stratified society where status is ascribed at birth. Here, a small social group (sub-caste) is assigned one definite social status where all members within the sub-caste are considered equal. Such a group of persons granted a certain level or status on the basis of ascription is called a status group.

Achieved status:

- ❖ Contrary to the ascribed status, an achieved status is the one accorded to a person on account of his personal accomplishments. In open class society, the bases of status assigning are personal achievements and not ascription. Here, there is a complete freedom for the members of different strata to mix up and a person, from ordinary status ranking can reach the top of the ladder of status solely on the basis of efforts made by him and recognized by his social group.

Role:

- ❖ It is dynamic aspect of status.
- ❖ Social positions (or statuses) are always in interaction and their interaction can be understood by the concept of role.
- ❖ A role is a pattern of behaviour associated with a distinctive status. In explanatory terms a role is an interrelated set of explanation and actions that is associated with a position in a social organization.
- ❖ Roles are thus "patterns of action and interaction that people enact wherever they engage in any collective activity or when alone, when they act as directed by or for such activity. A role, then, is an intersection or point of convergence, between individual action and some kind of organized or organizational participation".
- ❖ A role cannot exist independently; some kind of social organization is a must. The meaning of role can only be found in interaction with such roles. A university teacher, for example, finds his expression in the presence of his students. Roles are, therefore, always complementary or reciprocal and they find a way out for fixing up of responsibility for all jobs that have to be done.
- ❖ A society may thus have numerous roles performed by different persons. Most roles are much more complex than they appear in the first instance. A university teacher may be a husband, a father, a friend etc. The sum totals of all roles performed by an individual are known cumulatively as role repertoires.
- ❖ Persons enacting same kind of role are called role partners. Friends, students, workers are three different examples of role partners. A role partner can enact his role even without his mates. A student can study alone and a worker can work without his co-workers.
- ❖ Different roles in interaction form a role set. Thus, teacher student, superior subordinate is role set. A role set always requires two or more roles in interaction and complementary to each other.

Conclusion:

- ❖ Like the ascribed and achieved status, we have the respective concepts of ascribed roles and achieved roles but in this sense the 'status' and 'role' may, at times, be used interchangeably.

Q.10 What are the contributions of RC Brown in understanding structural functionalism.

Structural functionalism was propounded by Radcliffe Brown in his book "Structure and functions in primitive societies-1952". This theory is closely related to Malinowski's theory of functionalism but only differ in the aspect that functionalism helps in satisfying the need of humans while structural functionalism helps in continuity of structure in the society.

Basic Postulates/tenets:

1. The culture in each society has certain functions and these functions help in maintaining the social structure and continuity.
2. According to him every society consists of social structure, social organization, social functions
 - Social structure: Individuals are ultimate components of social structure. Social structure is classified into two types- actual social structure, general social structure
 - Actual social structure-It refers to internal structure of society, it constitutes relationship between persons or groups which change form time to time. New members come to being like birth, immigration while some others will go out by death, outmigration etc. Besides these there are marriages, divorces where by members change several times.
 - General Social structure- It refers to external structure of society. It constitutes social institutions and are relatively constant. Even though birth and death takes place, the general structure of society remains same. E.g The actual social structure of family may change due to birth or death but the institution of family remain unchanged relatively over a period of time.
 - Social organization: Individuals when arranged in an orderly fashion results in formation of social unit or organization or institution.
 - Social function: Each of these social units perform their respective social functions and are interrelated and interdependent.

Methods and Techniques

1. Field work
2. Participant observation
3. Synchronic analysis (focus on present)
4. Emic approach

Criticism

1. Couldn't explain why there are cultural variations.
2. It couldn't account for the exploitation and social inequalities that exist in certain cultures.
3. Completely disregarded historical process and hence criticised for his Anti- historical approach
4. Ignored ecological factors associated with the emergence of culture.

Conclusion:

Despite criticism it lays down the conceptual framework on how to observe and explain the social events which are possible in the society.

- Both schools emerged in the 1920s, in wake of the transformation of the discipline of Anthropology under the influence of American Anthropologist Franz Boas.

Bronislaw Malinowski and Functionalism

- ❖ Malinowski emphasized the historical study of society and social institutions rather than speculative study. His work started gaining attention in the 1930s. He laid importance on studying social behaviour through participant observation.
- ❖ Malinowski's significant contributions are kinship, marriage, magic, ritual language, myth, and the idea of reciprocity. According to Malinowski, a researcher should be able to speak the local language.
- ❖ Furthermore, the researcher should respect the community's customs, culture, and laws. His research about Trobriand's social life laid the foundation of anthropology.

Later developments

1. Edward Evans Pritchard who began as a functionalist reintroduced historical thinking into anthropology.
2. Comparative functionalism - resolves the lack of comparison in functionalism a Malinowskian Dilemma.
3. Neo-functionalism - The new structural-functionalism - accounts for bad behavior/ negative cultural traits

Conclusion:

- ❖ Functionalism and Structural functionalism had a lasting impact on anthropology as well as other disciplines. Their Basic tenets have become common sense in cultural analysis

❖ Another central area of study for Malinowski is needs functionalism. Human beings have a set of universal biological needs. To fulfil those needs, various customs and institutions are developed.

Alfred Reginald Radcliffe Brown and Functionalism

❖ Radcliffe Brown was influenced by the French sociological school of social phenomena. According to his analysis of the kinship system among the preliterate, the issues related to functionalism could be resolved in three steps.

1. Any society should have a certain basic level of integration within its parts.
2. The concept of function refers to the requisites for the existence of a society. It highlights the necessity for integration.
3. Everyone should look for characteristics that can be displayed for the continuance of integration. The target of explanation by functionalists is to find out how to achieve integration.

Differences

1. Proponents - Malinowski and Brown — both students of Franz Boas
2. Main Premise - Function of cultural trait vs preservation of society
3. Malinowski's theory of needs vs Brown's Social structure and social organization
4. Malinowski's Functional Analysis through charter vs Brown's Social Function
5. Structural functionalism focuses on kinship and descent, Functionalism generally ignores it
6. Brown with structural functionalism was relatively more given to theory building and generalizing based on observing social structure (e.g., the generation principle) compared to Malinowski with functionalism.

Commonalities

1. Culture/Society as an integrated whole
2. Emphasis on field work - participant observation (e.g., Trobriand islanders - Malinowski, Andaman and Nicobar - Brown)

Limitations

1. Failed to explain cultural variation
2. Could not integrate conflict/ negative cultural traits
3. Synchronic approach - studied a culture at a given time, neglected historical fact - it's development over time

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1d. Pedigree analysis in genetic counselling

Test series-9

Q) Critically substantiate the significance of screening and counseling for genetic disorders.

Introduction:

- ❖ Understanding and addressing your risk factors for genetic conditions can be complex, but genetic counselling makes it easier. Discover how a genetic counsellor can be a valuable partner to help you and your family recognize and adapt to genetic risk factors meaningfully, all with the goal of helping you stay as healthy as possible.
- ❖ Genetic counselling is a medical speciality that helps individuals and family members navigate their concerns about genetic conditions and associated health risks.

Body:

Genetic Screening

- ❖ Genetic screening is a measure to investigate the incidence of genetic diseases by testing apparently healthy individuals in order to control genetic disorders effectively.
 - ❖ Genetic screening may be used in populations at risk for a particular genetic disorder.
-
- ❖ The countries of western Europe and the USA have legally banned, the first- cousin marriages for genetic reasons. The risk of genetic disorders and congenital diseases
 - ❖ There is an increase in birth defects, due to marriages within the family. A study from the moiety of taivelol in the Todas, indicated an increase of cases of mental retardation from 2% of the population to 6% of the population in a short span of 20 yrs., primarily due to close kin marriages.
 - ❖ Here the role of the genetic counsellor is enormous. A recent study conducted in south Asia finds that 33% of down syndrome cases in the world are found only in south Asia.
 - ❖ Within South Asia and Southeast Asia, Indonesia contributes to the largest no. of cases of down syndrome for which parallel cousin marriages are considered to be the reason.
 - ❖ **Problems of child adoption:** A genetic counsellor helps the parents and adopting agencies in identifying the risk of inherited disease in the children.
 - ❖ **In the causes of disputed paternity:** A counsellor works in this case, in finding the original biological parents and mainly in the case of theft of new-born babies.
 - ❖ Recently, the ministry of tribal affairs, had undertaken a study of occurrence of down syndrome among the Tsugalis of Maharashtra and MP.
 - ❖ Similar such studies are proposed for the tribes with the culture of marrying within the moieties. Recently, genetic counsellors are recruited by the respective state govts. To study the pedigree analysis and to understand the occurrence of genetical diseases in Todas, bhils and bhilala's

Three Reasons Why Genetic Counselling is Important

- ❖ Understanding your risk factors for genetic disorders can be complex, but genetic counselling is meant to make it easier. Genetic counselling helps you and your family recognize and adapt to genetic risk factors in an accurate and meaningful way. Genetic counselling is important to families in different ways, such as:

How to Find a Genetic Counsellor Today

- ❖ Finding a genetic counsellor when you need one is important, and there are different ways to access one:
 1. **You can pursue genetic counselling** directly to better understand genetic health risks coming from your family history or genetic test results
 2. **Your doctor can refer you for genetic counselling** to discuss a genetic condition, genetic health risks or test results
 3. **Your employer or health insurance plan** may offer you genetic counselling as part of a genetic testing program

- ❖ G.S is only appropriate when the natural history of the disease is understood, then the screening tests are valid and reliable.

Features of Genetic Screening

- ❖ Can be Applied to groups or communities
- ❖ Done on apparently healthy individuals
- ❖ Prenatal diagnosis
- ❖ Informed reproductive choices.

Tools Applied in G.S

1. Pedigree analysis
2. Karyotyping i.e.: Cri du chat syndrome.
3. Using genetic markers. E.g.: ABO blood groups

Significance of G.S

- ❖ Prescriptive screening (case detection). E.g.: Huntington's disease
- ❖ Control of diseases (prospective screening). E.g.: sickle cell anaemia.
- ❖ Educational opportunities(R&D)
- ❖ Possible mating choices.
- ❖ G.S has immense potential but has been overburdened with challenges such as cost, acceptability, cultural factors and awareness particularly in developing and poor countries.

Genetic counselling

- ❖ Genetic counselling definition is given in "notes and queries of anthropology".
- ❖ A study dealing with human problems related to the occurrence or risk of a genetic disorder in a family. It is not limited just to genetic disorders its approach is multi-dimensional such as identifying the best genes, adopting the child and in paternity diagnosis.
- ❖ The new physical anthropology, considers genetic counselling as a significant aspect due to the reasons for the increase in the cases of paternity cases and in the increased risk of genetic disorders and mutations due to changing lifestyles and environmental Conditions.
- ❖ For example, on the west coast of India, such mutations are increasingly found among the fishing community due to exposure to radiation either from the sands of the coastal region or from the effluents released from the nuclear establishments.
- ❖ Recently there is a genetic mutation which is observed in the employees of the kaiga nuclear power plant.
- ❖ Fukushima nuclear power plant disaster also has the same scenario. For this reason, the dept. of biotechnology and the dept of atomic energy had initiated special drives of genetic counselling and started a special training programme for employees of nuclear establishments and people living in the vicinity of such establishments.
- ❖ Based on the probability of genetic disorders, the counsellor can suggest the possibility of occurrence in the next generation

Risk of consanguineous marriages

- ❖ The study of consanguineous marriage, has been specially taken up in anthropology for the social and biological consequences in Japan, India and Trobriander islands.
- ❖ Detailed and more scientific studies were done in these countries because of the increase of genetic abnormality from 1% of the population to 3% of the population.

ANTHROPOLOGY

FULL COURSE

2022/2023/2024

NEW BATCH



STARTS FROM

OCT 20TH

2022

VISHNU VARDHAN
SIR



PEDIGREE ANALYSIS

INTRODUCTION : pedigree analysis is first suggested by GALTON.

- Pedigree analysis is the study of inheritance of traits which shows regular transmission from one generation to other in a family
- PEDIGREE is to establish the pattern of inheritance of diseases in particular by studying family history.
- In pedigree analysis MALES are represented by SQUARE
- FEMALES are represented by CIRCLE.
- MALES -

- FEMALES

There are 23 pairs of chromosomes in which 22 pairs are autosomal chromosomes and 1 pair is sex chromosomal pair or gender notifying chromosomal pair (XX-FEMALE;XY-MALE)

Test series- 4

Q1) Genealogical method.

e) Genealogical method

- ❖ The genealogical method is part of sociological research though it is used more by anthropologists. Its main purpose lies in **kinship studies** which is an important field in any social-cultural research.
- ❖ It refers to pedigree or a systematic narration or description of a family tree showing all the ramifications of kinship linkages, kinship terms, various kinship usages, succession, etc according to the principles of Culture.
- ❖ Genealogy method of data collection was invented by W.H.R. Rivers during his Torres Strait expedition. It plays an important role among illiterate people.
- ❖ Ancestry is traced back to several generations and large numbers of collaterals are Functional value
 1. Used in the regulation of marriage, inheritance of property, succession to the chieftainship, etc.
 2. This is helpful for sociological work and also investigations on population and migration.
 3. On the occasion of ceremonies connected with birth, marriage, and death, Vital statistics, to know demography, pedigree analysis to detect genetic disorders.

Importance of the genealogical methods:

1. Genealogy plays an important role in discovering One's family and their connections.
2. Genealogy is not only used for human lineage, it can be used for many different lineages, such as food, primates, and so on.
3. One way to represent the genealogy is through a kinship diagram.
4. A kinship diagram helps classify a family lineage in a way to help understand lineage better, and more efficiently.

Methodology Information is gathered through ego.

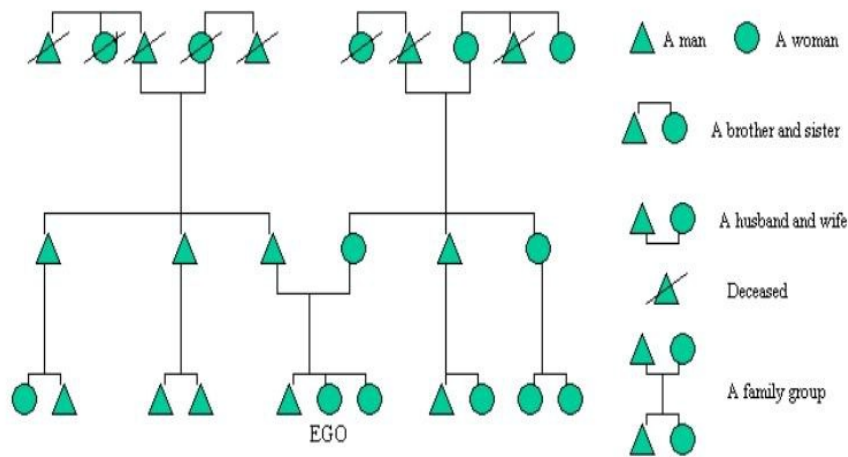
- ❖ Ego is a person of the family chosen by the researcher as the main source of information through which all kinship relations are and a family tree is built.

Caution to be taken:

- ❖ Informants should not feel that their information can be used against them.
- ❖ Good rapport with the informant
- ❖ Information collected should be interpreted in a local context.
- ❖ Phrasing of the question should be context.

Conclusion:

- ❖ Despite some limitations, the genealogical method has improved anthropological data collection.



1e. Participatory Rural Appraisal (PRA) and Participatory Learning and Action (PLA)

AFC June 2022 – Test 2

Q) Participatory appraisal methods

10. Participatory methods

- This is a method of data collection in an inclusive way. Here the people are participated in data collection methods. It is of 2 types
- PRA (participating rural appraisal)
- RRA (rapid rural appraisal).
- PRA and RRA are the modern methods of data collection.
- In PRA the data is collected by all the people inclusively and it is extrapolated to draw a conclusion. This conclusion gives us the data. Whereas RRA, the observer reaches each and every individual in the community and he draws the data from individuals collects the data from all the individuals and produce the collection as data.

- PRA is owned by the local people where as RRA is owned by the observer. In case of RRA, information is more elicited and extracted by outsiders as part of the process of data collection, where as in PRA, it is more generated, analysed, owned and shared by local people as part of a process of their empowerment.
- Participatory rural appraisal evolved from Rapid rural appraisal in 1970s - 1980s which was a response to biased perceptions derived from rural development tourism (which was a brief rural visit by urban biased professionals) and efforts of high cost questionnaire.
- Participatory rural appraisal is a contribution of anthropology to rural development.
- Participatory rural appraisal (PRA) is the technique of initiating a process of dialog with rural poor and making them to participate in planning and decision making process.

▼ ★ I A S ★

Principle common to both PRA and RRA:

- a) Reversal of learning: It means to learn from the local people directly on the site.
- b) Learning rapidly and progressively with conscious exploration, flexible use of methods, opportunism, improvisation and cross-checking. Rather than following a blueprint programme, it focuses on being adaptable in the learning process.
- c) Offsetting biases by being relaxed and not rushing, listening and not lecturing, probing instead of passing on to the next topic and learning the people's concerns and priorities.
- d) Triangulating: It means cross-checking, progressive learning and approximation through plural investigation.

Principles exclusive to PRA:

- a) People themselves are participants: Facilitating investigation, analysis, presentation and learning by local people themselves, so that they generate as well as own the outcomes, and also learn.
- b) Self-critical awareness: The researchers continuously and critically examine their own behaviour, including embracing their own errors.
- c) Personal Responsibility: PRA practitioners tend to take personal responsibility for what is done rather than relying on manuals or a rigid set of rules.

Techniques of PRA:

- a) Participatory mapping and modelling in which villagers prepare maps of their village.
 - b) Participatory transact walk includes systematically walking with the villagers through the area of village and discussing about the aspects of village life observed during the walk.
 - c) Technique of timeline includes a historical account given by the villagers of how different aspects of village life has changed.
 - d) Participatory diagramming: The villagers prepare diagrams of various social, economic and physical phenomena such as wages received, food consumed, crops grown, etc.
 - e) Ranking and scoring technique is applied to learn about the priorities and preferences of villagers in matters of occupation, food, energy use, etc.
- PRA is a contribution of anthropology towards rural development. Until and unless rural poor people can participate in determining their own well-being, rural development programmes would yield limited results. Solution to this problem is participatory rural appraisal.

2a. “Anthropology is the systematic, objective and holistic study of humankind in times and places”. Elaborate on the argument.

Test Series – 8

Q) Write a brief note on the meaning, nature, and scope of anthropology in various fields? And critically examine the development and role of anthropology in contemporary societies with suitable evidence.

Test series -11

Q) What do you mean by Anthropology? Give a brief note about the major branches of Anthropology and elaborate in detail with special reference to archaeological anthropology.

Test series – 13

Q) Development of Anthropology in the recent times

Introduction:

- ❖ Anthropology is a study of the origin, development and nature of the human species. “Anthropo” means ‘man’, ‘logy’ means ‘study’ i.e., study of humanity.
- ❖ It is the study not only about human beings but also about study of human beings living in societies and their lifestyles which are labelled as culture. That means it is the study of man, society culture, environment, human psychology and human biology.
- ❖ Aristotle is called Father of Anthropology. The term anthropology is coined by him. Anthropology is defined as a discipline of infinite curiosity about human beings. Anthropologists seek answers to an enormous variety of questions about human beings.
- ❖ Between the 14th and 17th century, anthropology was disciplined to deal about systematic study of man as a physical and moral being. In 18th – 19th century, social and cultural aspects are added into the progress of man. Whereas in 20th century the discipline became multi-dimensional.

Nature and Scope of Anthropology:

Anthropologists contribute significantly to interdisciplinary fields such as **international studies and ethnic and gender studies**, and some work in academic research centres. Anthropologists conduct scientific and humanistic studies of the culture and evolution of humans.

- ❖ Anthropology is concerned with all human beings past and present with all their works and activities. Anthropology is a combination of holistic (study of human beings or groups in entire pattern of their life), historical (i.e., attempt to describe course of evolution), comparative (similarities and dissimilarities among the groups).
- ❖ Anthropological explanations are not limited to any particular group of human being or to any single period of history. Earlier anthropologists concentrated only on non-western civilizations and now the scope covers all the cultures.
- ❖ We can conclude that, anthropology is the study of everything that is related to human i.e., human beings from biological orientation to cultural systems and how both influence each other.
- ❖ The involvement of anthropologist and use of anthropology in tribal welfare and development programmes is not sudden. It took decades to appreciate the knowledge of anthropology for use in practical purposes. Recent time it helped to resolve many problems.
- ❖ The scope of anthropology is universal because it tries to understand how humans evolve biologically, physically, and socially. It combines all these aspects and tries to understand how humans evolved to what they are today.
- ❖ Anthropology examines humans as organisms and tries to explain their origin and how various other factors contributed to their evolution. It tries to understand how cultures came into existence and civilisations were formed and destroyed, how languages were created or how gender roles were defined during history.
- ❖ It tries to understand what humans do and why they do it. Every aspect of human existence on earth and its species before that is included in the study of anthropology.

- ❖ **Social Anthropology** It studies the different ways in which people behave in different social and cultural settings across the globe throughout the history of humanity.
- ❖ **Cultural Anthropology** As the name suggests, cultural anthropology focuses on studying cultures and people's beliefs, practices, and social organisations of human groups.
- ❖ **Linguistic anthropology** tries to understand how languages influence social life. The study of linguistic anthropology started with the motive to document endangered languages and slowly, over time, has broadened its scope to understand various other aspects of language.
- ❖ **Biological anthropology**, also known as physical anthropology, is a scientific discipline that studies human beings' biological and behavioural attributes and their other extinct hominin ancestors and related non-human primates to understand evolution.
- ❖ **Archaeological anthropology** studies historical cultures and past human beings through material remains obtained by excavation. It involves analysing and interpreting artefacts, soils, and cultural processes.
- ❖ **Ethnography** It is a discipline of anthropology that involves the study of individual cultures. It explores cultural phenomena from the point of view of the subject. Social research examines participants' behaviour in a particular social situation.

Contemporary significance

- ❖ Anthropology plays vibrant role in policy making, because it studies man in different context like rural urban tribal etc.
- ❖ There are various factors for an anthropologist to advice for making policy.
- ❖ **Action Anthropology** the aspects like participant observation will give us data without error because anthropologist is involved in data collection.
- ❖ For example, S C Roy as MLA of Bihar upheld the cause of tribal people Verrier Elwin planned Panchasheel doctrine.
- ❖ Field work traditions of anthropology gives government first-hand information which can be used in policy formulation. For example, Heimendorf, conducted field work on Gond where he Recommended necessary measures for the welfare of gonds.
- ❖ **Cultural relativism** it helps the government to understand tribal culture in their own setting and formulating policies accordingly. For example, the economic subsistence of Baiga is shifting cultivation, verrier Elwin recommended for legalizing shifting cultivation in Baiga.
- ❖ **Holism-anthropological approach** is holistic while formulating the policies, Holistic analysis of possible effects of a policy can be understood, so that acceptance and rejection of tribal people can be predicted, For, example development displacement-tribal connection with nature should be taken into account

Role of anthropology in contemporary India as follows

1. It allows the study of interaction between homo sapiens and the world.
2. It helps in understanding the primitive societies and solutions.
3. It helps in solving problems.
4. It helps in solving the social problems with the help of science and scientific methods.
5. It works as a solution for ethnocentrism.
6. Biological anthropology such as human evolution and the relation between human and the biosphere and its variation with time.
7. Linguistic anthropology such as relationship between the culture and tradition with language.
8. Cultural anthropology such as different cultures and its development based on social and physiological data.
9. Several Anthropologists like Majumdar, RC Brown, WHR rivers and L P Vidyarthi used comparative and historical methods to understand social change due to diffusion of Cultural aspects from non-tribals to tribals and vice versa.

10. In the contemporary Times the need of anthropology is questioned in designing tribal development programs. Anthropologists consider tribal discipline is important because it provides sustainable as well as inclusive solutions.
11. Anthropology is helpful in sharing development with mainstream but without compromising with their social customs and Culture.
12. Some of the areas where anthropology researches were applied and found useful are: -
 - a) In development administration - development should happen as per their genus of tribes but not as per main stream.
 - b) Anthropologists recommend providing necessary education and health facilities. (Xaxa - try to imbibe their own tribal way of living, life histories - education will be interesting - don't add outside histories). First give chance to Shaman than doctor. (appeasement).
 - c) Anthropology is helpful mainly in development displacement issues. Because of development projects people are becoming refugees
 - d) (Development refugees). Anthropologists will give proper suggestions for resettlements and rehabilitation.
 - e) Anthropology is helpful in resource utilisation, conservation and preserving traditional knowledge. Example: -TKDL (traditional knowledge digital library)

Conclusion

- ❖ however, Anthropology is criticised for focusing more on tribal development and neglecting other areas of studies. Nevertheless, Anthropology is multi discipline in nature. It focused more on tribal development because they are the most neglected and disadvantaged sections of mankind. The techniques adopted by Anthropology like participant observation, fieldwork tradition, etic and emic views helped a lot in understanding the cultures of tribals. Thus, Anthropology due to its tribal centric approach is very much helpful in policy making.
- ❖ It also helps us understand that anthropology is a study of how human beings evolved and how different cultures and societies came into existence. It tells us how languages were formed, and you have forgotten how humans have evolved from primates to such an advanced species that has travelled to the moon.

a) Development of Anthropology in the recent times

Introduction:

- ❖ Anthropology refers to the study of human beings, also known as the wise primate. The focus of this field is on studying human history, biology, language, and geographical spread across the planet, society, and culture. Various methods have come up in the development of anthropology that helps pursue the subject. There is an examination of the variations in the histories, biologists, languages, and socio-cultural customs of different types of peoples in anthropology. Here we shall focus on the historical development of anthropology.

Body:

19th-century beginnings

- ❖ The historical development of anthropology can be traced back to the middle of the 19th century. This was due to a series of innovations in North America and Europe. At the end of the 18th century, the last phase of the great world discovery had begun.
- ❖ During this time, there were several revolutions in the world of politics and intellectual nature. These revolutions facilitated the questioning of several customary and religious beliefs and dogmas. This opened the pathway to an intellectual discussion of previously forbidden subjects.
- ❖ There was a revival of interest in the study of the origin of man during this period. There were also discussions on the human species' unity or plurality. Many intellectuals also began searching for the mutability of animal species.
- ❖ The development of anthropology science took place as an outgrowth of contemporary studies. These studies were regarding the following factors:

1. The classification of human races
2. The comparative characteristics of human anatomy
3. The history of human settlements
4. The comparison between primitive and ancient cultures
5. The classification of languages
6. The historical development of economy
7. The comparison of grammar

Evolutionism

- ❖ The concept of Evolutionism states that all living species, including humans, have evolved over several years on earth. Evolutionism began to determine the development of anthropology by the end of the 19th century.
- ❖ This concept helped in determining the complex new science. Classifying different societies and cultures was a major task of cultural anthropology. This was accomplished with the advent of the concept of evolutionism.
- ❖ The phases and stages through which every group of humans goes through were determined by the evolutionism concept. This significantly helped in the development of anthropology.

20th-century trends

- ❖ By the beginning of the 20th century, further advancements took place in the development of anthropology. This helped the science of Anthropology to take its final shape. The main highlight of this period was turning towards a more pluralistic viewpoint.
- ❖ To account for the variety of societies and cultures and all the differences between them, the suggestion of anthropologists was to take the total human group circumstance. This was done by considering history as a whole. So, the various contacts that a particular human group had with other groups throughout history were also focused on now. Also, the circumstances of a particular group that affected its development were studied, whether favourable or unfavourable.

Anthropology Today

- ❖ There has been an emergence of newer and better technologies. Furthermore, there has also been an emergence of various study fields that allow anthropologists in the contemporary era to analyse much more complex information regarding societies and cultures.
- ❖ Archaeologists in the current era now make use of CT scanners. These scanners facilitate a combination of a series of X-ray views that have been prepared from different angles. Finally, with the help of CT scanners, they can produce cross-sectional images of small tissues and bones of the remains.
- ❖ The use of CT scans now takes place on ancient Egyptian mummies. This lets anthropologists know about mortality, health, and disease patterns in ancient Egypt. The results of these technologies are much more accurate than those of the historical development of the anthropology phase.

Conclusion

- ❖ Anthropology is the study of human beings, also known as the wise primate. Factors like human history, biology, language and geography spread across the planet, society, and culture are emphasised the most in this field. The middle of the 19th century is when modern anthropology began developing. Study this section well and the impact of evolutionism on anthropology

2b. Discuss different forms of primate social organization.

Test series -8

Q) Write the meaning of the Phylogenetic status and critically evaluate the skeletal changes that occurred due to erect posture and write about its limitations

Q) Write about the comparative anatomy of Man and apes and discuss their evolutionary significance in the present context

Test Series - 11

Q) Write the meaning of the Primatology and Critically elaborate Role and scope of Primatology in Anthropological studies

Test Series – 13

Q) Write the meaning and significance of the erect posture and give a brief note on the evolutionary significance of bipedalism and erect posture

Introduction:

- ❖ Phylogenetics is the area of research concerned with finding the genetic connections and relationships between species. The basic idea is to compare specific characters (features) of the species, under the natural assumption that similar species (i.e., species with similar characters) are genetically close. The term phylogeny refers to these relationships, usually presented as a phylogenetic tree.
- ❖ Classic phylogenetics dealt mainly with physical, or morphological features - size, colour, number of legs, etc. Modern phylogeny uses information extracted from genetic material - mainly DNA and protein sequences. The characters used are usually the DNA or protein *sites* (a site means a single position in the sequence) after aligning several such sequences, and using only blocks which were conserved in all the examined species.
- ❖ An interesting example is a research project that used phylogenetics in order to trace the origins of the human population on earth. Researchers investigated the mitochondrial DNA of 182 people all over earth (the mitochondrial DNA is especially good for phylogenetic research since it is copied completely from mother to son, without recombining with the father's DNA). The phylogenetic analysis provided evidence that all humans have a common female ancestor who lived in Africa ("African Eve").

Body:

- ❖ The assumption of such an erect posture has consequences on our skeletal system. Anatomical modifications that took place on the skeletal system due to assumption of erect posture vary in magnitude in different parts of the skeleton. Changes are observed to be more prominent on **skull, vertebral column, pelvic girdle, femur and foot**.
- ❖ In the history of primate evolution man evolved from non-human primates. Gradual evolution from terrestrial quadrupedal (pronograde) to semi-erect posture (clinograde) and finally to a fully erect posture (orthograde) with bipedal locomotion is the way how the evolution of locomotion from simians to man has been interpreted.

Changes in Pelvic Girdle due to assumption of Erect Posture: -

- ❖ When an individual stands erect, his whole-body weight is to be transmitted on the hind legs through pelvic girdle. Therefore, the pelvis plays a great role in getting an erect posture and naturally had experienced a number of changes.

Some of the associated changes are:

1. Among the quadrupeds, the pelvis may be like a bony cylinder flattened from side to side, with its long axis parallel to spine, and the spine parallel to the ground. When an animal stands up with its spine more or less perpendicular to the ground, the girdle is now to transmit the weight of the entire body. As a result of this new stress the pelvis is now flattened downward and expanded laterally; it becomes lower and broader. Its anterior or superior end spreads out, making it funnel shaped with the small orifice directed downward.
2. It was observed that human pelvis had experienced a mosaic evolution. The three bones that make up the pelvis- ischium, ilium and pubis did not develop and change at the same rate. The ilium experienced change most and ischium the least. The ischium of man is almost the same as that of living pongidae (Washburn). The ilium shortened and broadened and bent back

on ischium, and resembled fan shaped in appearance. Among the primates, the extreme shortness of human ilium puts man in position of lower pelvis relative to trunk height than any other primate (Hooten).

3. The excessive breadth of the sacral part of the human ilium also helps in transmitting the whole-body weight.
4. The ilio-sacral articular surface of the ilium is placed far above the acetabulum in other primates, as such there is no bony structure opposite to acetabulum. In case of man the lower part of the sacrum lies opposite to the acetabulum.
5. Proportionately, human pelvis exhibits much larger and thicker acetabular region than that of other primates. This also helps in transmitting and supporting the body weight femur whose head articulate with it.
6. The acetabulum lies in the middle of the ilium and ischium, unlike those of pongids among whom the acetabulum is located well below.
7. The sacrum is shorter and broader and the inlet of the pelvis forms a broad bottomless basin which supports pelvic viscera.

Changes in Femur due to assumption of Erect Posture: -

- ❖ In an erect standing animal, the entire weight of the trunk and upper extremity is to be transmitted from the pelvis to the femur which in turn supports the same. Therefore, in order to bear the load of the weight, the femur has to experience a number of modifications from the femur of the quadrupedal-or-semi-erect-postured-primates.

The following are the modifications observed on the femur of man due to assumption of erect posture.

1. In contrast to other primates, human legs (lower extremity) are longer than arms, as such the femur is long and stout. To meet the pressure of the body weight. Hence femur is the longest, largest and strongest single bone of human body.
2. The condyles (lateral and medial) are comparatively larger than those of other nonhuman primates because of the fact that joints of the leg need to have large and stout structures for supporting the body weight.
3. The ridges for muscle attachments in the femur are much more sharply defined and differentiated than other non-human primates. To be more particular, the Linea aspera, a prominent rough ridge which runs along the length of the diaphysis on the posterior surface is distinctly present. It is the ridge where the extensor muscles responsible for erect posture and bipedal gait are attached to.
4. The femur is angled outward from the knee rather than standing upright as observed among the great apes. This carrying angle ensures that the knee is brought well under the body and closer to the line of action of body weight.
5. The callo-diaphysial angle i.e., neck-shaft angle is larger in man compared to apes and other primates. This obtuse angle helps to support heavier weight as compared to lower angle.
6. The popliteal surface is also more concave as compared to apes. This may also have some significance in erect posture.

Changes in Foot due to assumption of Erect Posture: -

- ❖ With the assumption of erect posture and bipedal walk, the hind limb is no longer a grasping organ but locomotory organ. As such changes necessary for modifying this grasping foot into an organ capable of supporting the weight of the body is fairly clear.

1. The great toe and its supporting metatarsal bones must be brought into the line of the long axis of the foot; for a divergent toe, sticking out like a thumb would be a hindrance to ground walking, since it would be stubbed almost constantly. Therefore, all the toes are in a line.

2. The big toe is no more opposable since the foot as a whole is not a grasping organ. Because of this, it also became shorter than the thumb.
3. The four lesser toes being no longer used for grasping now underwent a process of shortening and degeneration.
4. The great toe is not separated from other toes and all the meta tarsal are bound together by a common ligament.
5. The weight of the body is transmitted from heel to great toe during walking. Therefore, the foot has been modified with the development of transverse and longitudinal arches which help to absorb shocks.
6. Elongation and strengthening of the calcaneum is another modification so that the weight is easily transmitted.

The talus bone is also enlarged and wedge shaped to serve the purpose of transmitting the weight to the great toe while walking. So, these are some of the anatomical changes or modification that we have observed on the pelvic girdle, femur and foot of man due to assumption of erect posture.

Conclusion:

- ❖ There have been several skeletal changes due to erect posture in the human skeleton. The different joints have adapted to accommodate the motions required to maintain an erect body posture. Several bones have been altered in shape and angled differently to help with balance and locomotion. The erect body posture helps conserve energy and enables human beings to develop specialised functions and manipulate objects with great accuracy and detail.

c. Write the meaning of the Primatology and Critically elaborate Role and scope Primatology in Anthropological studies(15marks)

Introduction:

Primatology-

- ❖ It is the Scientific study of primate group of mammals. Man, the central figure of Anthropological study, belongs to the order primate of animal kingdom.
- ❖ The primates, starting from the smallest rat like micro-Cebu's to the largest huge bodied gorilla, in their various stages of development show different life patterns.
- ❖ The integrated study of the primates, in the background of physical Anthropology gives an intrinsic value to understand the position of man.
- ❖ **Primatology** is an important sub-field of **anthropology**. **Primatology** involves the study of primates—our non-human ancestors—and can help **anthropologist** better understand both our similarities to primates and the course of human evolution. Western **primatology**

Body:

- Primatological studies traverse a number of other academic disciplines (psychology, zoology, and biology), so what are the ties that bind primatology as an anthropological pursuit? The easy

answer is that as members of the taxonomic Order Primates, we are obliged to understand the biological relationships between living and ancestral primates. However, phylogenetic ancestry should not be used as a trump card when asked to describe one's academic alignment. Similarly, our academic phylogeny should not be solely based on our relationship to physical anthropology. As anthropological primatologists, we have the capability and responsibility of distinguishing ourselves as a nexus of biological and social sciences.

- The likely reason for the persistent questioning of the presence of primatologists within anthropology stems from its historical association with sociobiology during the 1980s and 90s. A lightning rod for post-modern criticism, sociobiology was utilized by primate and human behavioral ecologists to stress a more reductionist view of behavior; the ultimate explanation for behavior was for individuals to reproduce and outcompete their conspecifics. While early descriptions of primate behavior illuminated the evolutionary connections to humanity, a flux of field studies incorporated biological models to explain the variations between species (inter-specific) and theorized how ecological and social factors influenced the evolution of species. As primatological data became more systematic and theory became more complex, its relationship with socio-cultural anthropology became more disparate.

- a) Write the meaning and significance of the erect posture and give a brief note on the evolutionary significance of bipedalism and erect posture (20 marks)

Introduction:

- ❖ Erect posture **forces the spine into a position in which it is constantly exposed to minor trauma and to stress on pain-sensitive structures**. These pain-sensitive structures are the supporting bones, articulations, meninges, nerves, muscles, and aponeuroses. Gradual evolution from terrestrial **quadrupedalism** (pronograde) to semi **erect posture** (clinograde) and finally to a fully **erect posture** (orthograde) with **bipedal** locomotion is the way how the **evolution** of locomotion from simians to man has been interpreted. Man deserves its name when he could stand **erect** and walk **bipedally**.
- ❖ Erect posture was first seen in Australopithecus. They lived during the Pliocene and Pleistocene epoch (4.4 to 1.4 million years ago). Lucy is the most famous specimen of Australopithecus. Australopithecus were having bipedal locomotion but their brain size was small.

Body:

- ❖ The assumption of such an erect posture has consequences on our skeletal system. Anatomical modifications that took place on the skeletal system due to assumption of erect posture vary in magnitude in different parts of the skeleton. Changes are observed to be more prominent on **skull, vertebral column, pelvic girdle, femur and foot**.
- ❖ In the history of primate evolution man evolved from non-human primates. Gradual evolution from terrestrial quadrupedal (pronograde) to semi-erect posture (clinograde) and finally to a fully erect posture (orthograde) with bipedal locomotion is the way how the evolution of locomotion from simians to man has been interpreted.

Bipedalism and Erect Posture

- ❖ The erect posture in man is due to an extra curve in the spine. Erect posture also allows bipedal locomotion for bipedal walking. Australopithecus were the first to show bipedal walking. Bipedal walking involves walking on two legs with an erect posture. Erect posture has many advantages; one can see clearly, communicate properly, vision too will be proper and clear. It also frees the forelimbs, which were then used for making tools, writing, painting, etc. Upright walking species of humans that lived on the ground were first evolved in Africa.
- ❖ Modern i.e., Homo sapiens evolved from Homo erectus. It means 'upright man'. A lot of changes came in ancestors of humans with time, these changes lead to arousal of today's modern man. Bipedalism, encephalization (development of brain size) and many different morphological, genetic and physiological changes occurred with time or evolution through natural selection, mutation, etc.
- ❖ Over time, our ancestors became bipedal, which means that we started walking using two legs. Their postures become upright as a result of the enlarging of the vertebra. The pelvic region

becomes short and girdle. Convergent big toes and the platform feet helped them to walk by feet. The backward curving of the spine helped adjust the body weight in the pelvic area by increasing the number of sacrum bones. The flattening of ischium aids in the sitting position, which allowed the ancestors to be better hunters and gatherers.

- ❖ One of the most fundamental impacts that evolution has had that led to the development of our specie was bipedalism. Bipedalism enabled our ancestors to find new uses for their arms and these new uses had great impact on the evolution of our species. The fact that now they could carry things from one point to another and utilize their hands to build tools helped them be able to become better hunters and gatherers and eventually settle. Evolution also played a very important role in other aspects of the bipedal primates, and here we will explore what they were.
- ❖ In the history of primate evolution man evolved from non-human primates. Gradual evolution from terrestrial quadrupedalism (pronograde) to semi-erect posture (clinograde) and finally to a fully erect posture (orthograde) with bipedal locomotion is the way how the evolution of locomotion from simians to man has been interpreted.
- ❖ Man deserves its name when he could stand erect and walk bipedally. We stand with our back vertical, legs straight and our arms and hands hanging down freely on the side of the body.
- ❖ On the other hand, our primate relatives, even if they stand, they do it with a slopping back, bent legs and arms and hands hanging down in front of the body. The assumption of such an erect posture has consequences on our skeletal system. Anatomical modifications that took place on the skeletal system due to assumption of erect posture vary in magnitude in different parts of the skeleton.
- ❖ Changes are observed to be more prominent on skull, vertebral column, pelvic girdle, femur and foot.
- ❖ The walking gaits of humans, other bipeds and most quadrupedal mammals can best be described by using an inverted-pendulum model, in which there is minimal change in flexion of the limb joints during stance phase. But the gradual evolutionary changes, which had to take millions of years, brought a mixed bag. An understanding of the evolution of human bipedalism can provide valuable insights into the biomechanical and physiological characteristics of locomotion in modern humans.
- ❖ A biped is an animal or machine that moves on two rear limbs or legs. This is a form of terrestrial locomotion. Biped means two feet that is bi for two and ped for foot. Bipedal movements range from walking, running, or hopping. In the process of human evolution, this is considered as one of the major steps as it was the transition from quadrupedalism in terrestrial ancestor to bipedalism in early man.
- ❖ Understanding the evolution of human bipedalism will provide valuable insights in physiological characteristics of locomotion in modern man. This paper therefore explores the motivational factors that lead to the adaptation of the bipedal posture and the importance of bipedalism to human evolution.
- ❖ There is several importance of the evolution of bipedalism in human beings, First, there was the need by the quadrupedal to use the rear limbs to stand and facilitate the eating of tree leaves and other shrubs and general eating where one has to hold prey (Schmitt and Lemelin, 2002). It was also important in facilitating arm hanging.
- ❖ In addition, there was the need for social, sexual, and reproductive conduct in early hominids (Schmitt and Lemelin, 2002). This adaptation influenced survivorship and birth rate, monogamous mating structure and male provisioning of food to mate and off springs.

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2c. Discuss with suitable examples the typo-technological problems in the Indian paleolithic industry with reference to environmental hypotheses.

Test Series – 8

Q) Discuss briefly the major traditions in the upper Palaeolithic culture of Europe.

Test series -13

Q) Tool culture of the Palaeolithic period in the world

b) Tool culture of the Palaeolithic period in the world

Introduction:

- ❖ The Palaeolithic Age is characterized by the use of **knapped stone tools**, although at the time humans also used wood and bone tools. Other organic commodities were adapted for use as tools, including leather and vegetable fibres; however, due to rapid decomposition, these have not survived to any great degree.
- ❖ In fact, stone tools were so important in the Palaeolithic age that the names of Palaeolithic periods are based on the progression of tools: Lower Palaeolithic, Upper Palaeolithic, Mesolithic (Middle Stone Age), and Neolithic (New Stone Age).

Body:

- ❖ Palaeolithic groups developed increasingly complex tools and objects made of stone and natural fibres.
- ❖ Language, art, scientific inquiry, and spiritual life were some of the most important innovations of the Palaeolithic era.

Technological innovation

- ❖ Stone tools are perhaps the first cultural artefacts which historians can use to reconstruct the worlds of Palaeolithic peoples. In fact, stone tools were so important in the Palaeolithic age that the names of Palaeolithic periods are based on the progression of tools: **Lower Palaeolithic, Upper Palaeolithic, Mesolithic** (Middle Stone Age), and **Neolithic** (New Stone Age)
- ❖ Stone tools also give us insight into the development of culture. Anthropologists think Palaeolithic people likely hunted, foraged, and employed a communal system for dividing labour and resources. Anthropologists have inferred this by drawing analogies to modern hunter-gatherer groups and by interpreting cave art which depicts group hunting.



Palaeolithic tools found in Bernifal cave in Meyrals, Dordogne, France, estimated to be 12,000 - 10,000 years old

- ❖ Seven tools which appear to be made of stone displayed against a grey backdrop. Four tools are in the top row and appear to be sharpened to a point. Three relatively smaller tools are in the bottom row and are not as sharp.
- ❖ By approximately 40,000 years ago, narrow stone blades and tools made of bone, ivory, and antler appeared, along with simple wood instruments. Closer to 20,000 years ago, the first known needles were produced. Eventually, between 17,000 and 8,000 years ago, humans produced more complicated instruments like barbed harpoons and spear-throwers.
- ❖ **The Palaeolithic Period** is an ancient cultural stage of human technological development, characterized by the creation and use of rudimentary chipped stone tools.
- ❖ **The Palaeolithic Period** was also **characterized** by the manufacture of small sculptures (e.g., carved stone statuettes of women, clay figurines of animals, and other bone and ivory carvings) and paintings, incised designs, and reliefs on cave walls.
- ❖ The **Palaeolithic Age in India** is divided into **three phases** in accordance with the type of stone tools used by the people and also according to the nature of climatic change:
 1. First phase may be placed broadly between 600,000 and 150,000 BC
 2. Second between 150,000 and 35,000 BC
 3. Third between 35,000 and 10,000 BC.

Lower Palaeolithic Age

- ❖ **The Lower Palaeolithic or the Early Old Stone Age** covers the greater part of the ice age.
- ❖ The Early Old Stone Age may have begun in Africa around two million years ago, but in India it is not older than 600,000 years. This date is given to **Bori in Maharashtra**, and this site is considered to be the earliest Lower Palaeolithic site.
- ❖ This age consists of two principal tool-making or cultural traditions:
 1. The **Soanian tradition** forming part of the East and Southeast Asian chopper chopping tool tradition, and
 2. The Hand axe-cleaver or biface assemblages constituting the **Acheulian tradition**, which is widely known from the western half of the Old World (African, Western Europe, West and South Asia)
- ❖ People used hand axes, cleavers, and choppers. The axes found in India are more or less similar to those of western Asia, Europe, and Africa. Stone tools were used largely for chopping, digging, and skinning.
- ❖ Early Old Stone Age sites have been found in the **valley of river Son or Sohan** in Punjab, now in Pakistan.
- ❖ Several sites have been found in Kashmir and the Thar desert.
- ❖ Lower Palaeolithic tools have also been found in the Belan valley in UP and in the desert area of Didwana in Rajasthan
- ❖ **Nagarjuna Konda** in Andhra Pradesh is an important site, and the caves and rock shelters of **Bhimbetka** near Bhopal also show features of the Lower Palaeolithic age.
- ❖ The rock shelters may have served as seasonal camps for human beings.
- ❖ The people of the Lower Stone Age seem to have **principally** been food gatherers. They took to small game hunting and lived also on fish and birds.



Middle Palaeolithic Age

- ❖ The Middle Palaeolithic industries were largely based upon flakes or small pieces of stone which have been found in different parts of India with regional variations.
- ❖ This culture consists of a variety of tools made on flakes; and these flakes are produced by specialized techniques. Therefore, it is widely referred to as **flake tool industry**
- ❖ The artefacts of this age are found at several places on the **river Narmada**, and also at several places, south of the Tungabhadra River.
- ❖ **The Belan valley (UP)**, which lies at the foothills of the Vindhyas, is rich in stone tools and animal fossils including cattle and deer. These remains relate to both the Lower and Middle Stone ages.

Upper Palaeolithic Age

- ❖ This age, in the world context, marks the appearance of new flint industries and men of the modern type.
- ❖ The Upper Palaeolithic is marked by **technological advances** in stone tool manufacture by the production of parallel sided blades which are finished into a variety of tools by blunting one side or by backing.
- ❖ In India, we notice the use of blades and burins, which have been found in AP, Karnataka, Maharashtra, central MP, southern UP, Jharkhand and adjoining areas.
- ❖ Caves and rock shelters for use by human beings in the Upper Palaeolithic phase have been discovered at Bhimbetka
- ❖ An Upper Palaeolithic assemblage, characterized by comparatively large flakes, blades, burins, and scrapers has also been found in the upper levels of the Gujarat sand dunes.

3a. Discuss how the rules of descent contradict the principles of residence in a matrilineal society, mentioning suitable examples.

Test series- 1

Q) Write the meaning and significance of the descent? And write about the various forms of descent groups in the simple society at the present.

Test series- 13

Q) Relevance and significance of Matrilineal society in India in a few selected states

AFC June 2022- Test 7

Q) Matrilineal society

Introduction:

✚ it refers to the **socially existing recognized biological relationships between people in society**. Every society looks at the fact that all offspring and children descend from their parents and usually it is said biological relationship exists between parents and children. Therefore, the descent is used to trace an individual's ancestry.

Body:

✚ descent, in anthropology, **method of classifying individuals in terms of their various kinship connections**. Matrilineal and patrilineal descent refer to the mother's or father's sib (or another group), respectively. Bilateral descent refers to descent derived from both sibs equally.

- ✚ The term descent denotes the relationship that bonds the child to its mother or father, through which the elements that constitute the main characteristics of their status are transmitted.
- ✚ Morgan and especially Pitt-Rivers and Radcliffe-Brown formulated a series of theories that reproduction by way of descent is the main principle of kinship. These theories are known as descent theories. A different view of these older theories is aired by Levi-Strauss's alliance theory, which links the exchange of women and the interdiction of incest as the organizational principles of kinship.
- ✚ In all societies, kinship and descent are two different notions: Kinship is a social relationship that may or may not coincide with a biological one; the descent is a social convention that may require a biological relationship.

NU
S ★Descent Systems

- ✚ Descent systems determine the parents who transmit the main characteristics of individuals' status. Parents also determine our membership in kinship groups: our mother's, our father's, or both.
- ✚ Correspondingly, when the elements of status have been transmitted by women, by mothers, in particular, the descent is called matrilineal or uterine. This descent was common among the Iroquois Native Americans, and it still happens in the Hopi tribe.
- ✚ In many matrilineal or uterine descent societies, the mother's brother has the primary role in the kinship group, corresponding to the father's role in cases of patrilineal or agnatic descent. In the Trobriands in Melanesia, the son belongs to his mother's kinship group in which her brother is also included; following the son's marriage, the son and his wife live with the said brother.
- ✚ Some societies have an even more complicated descent system, combining matrilineal and patrilineal descent but only one of them is commonly accepted. This system is termed double descent or bilineal descent, not to be confused with bilateral or cognatic descent, where descent is equally determined by both parents' sides.
- ✚ In the Ashanti in Ghana, children inherit their fathers' "spirit" as a characteristic of their status, but they belong to their mothers' kinship groups, with whom they cohabit. A man and a woman who are distant patrilineal relatives are allowed to marry when it becomes impossible for them to name their common patrilineal ancestor, usually after four or

five generations. Marriage is, however, strictly forbidden for all matrilineal relatives belonging to the mother's wider kinship group. Conversely, in the Yako in Nigeria, children belong to and live with the patrilineal kinship group. This patrilineal group is strictly exogamic; their matrilineal group is much less so. Here we have two unilineal descents juxtaposed.

Descent Groups

- ✦ Extending our discussion of kinship and descent, a kinship group (either lineage or clan) may be of matrilineal, patrilineal, or double descent. Lineage is the wider group of individuals beyond the family who are interconnected through consanguineal kinship and who acknowledge a common ancestor.
- ✦ The clan is the even wider social group in which members acknowledge a common ancestry and whose relationships are ruled by solidarity. Whether the group is of matrilineal, patrilineal, or double descent depends on whether its members claim a common ancestor (who may be an existing or mythical person) and whether their characteristics are determined through the mother, the father, or both. These kinship groups are respectively known as matrilineal, patrilineal, or double descent groups.
- ✦ The term descent groups are thus limited to unilineal or double descent groups. In the case of cognatic descent, there is no proper descent group, as neither patrilineal nor matrilineal relatives constitute a descent group because they both simultaneously belong to two kinship groups. Descent groups usually appear organized in such a way that enables them to make political, religious, or social decisions affecting their members. We call these corporate descent groups.
- ✦ The groups which are formed on the principles of kinship are the Kinship based groups. **Lineage, Clan, Phratry, and Moiety** are examples of kinship-based groups. Kinship-based groups are the ones that constitute kinsmen. The members of a kinship-based group can be related to each other through birth or marriage. These are also called Consanguineal kin or Affinal kin, respectively.

- ✦ The kinship-based groups listed above are the ones that constitute people who are related to each other through parentage i.e., consanguineal kin. These are also called Descent groups.
- ✦ Allocation of individuals to a descent group is technically known as Filiation. Filiation can be through the father's line or mother's line or both. **The descent groups can be further classified based on the rules of descent governing that group. In this context, they can be classified as unilineal descent groups, ambilineal descent groups, double unilineal descent groups, and mixed descent groups.**
- ✦ A Unilineal descent group is a kinship-based group whose members reckon or trace their descent through one sex only. Thus, unilineal descent groups may be Patrilineal or Matrilineal, the former constituting the members who trace their descent through the male line and the latter with those who trace their descent through the female line.
- ✦ A patrilineal or matrilineal descent group can be a lineage, clan, phratry, or moiety. A Double unilineal descent group is also called a double descent group. Here the members believe themselves to have descended from both the father's patrilineal group and the mother's matrilineal group.

LINEAGE

- ✦ A unilineal group of kin who trace their descent from a known common ancestor is a lineage. A lineage is a unilineal descent group and is a consanguineal group. The members of a lineage claim their descent from a commonly known ancestor and at the same time, they can actually demonstrate the links between themselves and their known ancestor.
- ✦ It is based on demonstrated matrilineal descent. Matrilineages occur among the Veddas of Ceylon, Kurtchin of Northern Canada, Tikopia of South Pacific, and in India, among Khasi and Garo of Meghalaya. A consanguineal kin group, each of whose members can trace their descent from a known common ancestor, either a male or female, constitutes an ambilineage. It is also called a ramage or a sept. Ambilineages occur among Nukuros of Micronesia, Samoans of Polynesia, and Iban of Sarawak, and also among the pastoralist societies of Tibet. Ambilineages are also reported from the agricultural societies of Japan.

Characteristics

1. Lineages are named: They can also have labels, symbols, or even designations. In very few societies, lineages are not named.
2. Lineages are exogamous: Since the members of a lineage are consanguine, i.e., related by blood, they must choose their spouses from other lineages. Thus, lineages in every society regulate marriages through exogamy.
3. Lineages have common religious obligations: The lineages may have their own deities, priests, and peculiar rituals for dealing with the supernatural. Lineages involve in the veneration of their respective ancestors.
4. Lineages are characterized by corporate property ownership: In most of the societies, lineages act as a corporation because it owns property and controls the use and inheritance of this property.

CLAN

- † A unilineal descent group that claims but cannot trace their descent from a remote common ancestor is a clan. A clan is a unilineal descent group, and its members have a remote ancestor who might have lived many generations back and their presence is rooted in the mythologies associated with the clan.
- † The blood ties are numerous and hence cannot be traced to the ancestor successfully. The members of the group have only a tradition of belonging to the same group rather than being able to tell just how all the members are related.
- † Depending upon the various forms of unilineal descent, clans may be classified into two broad categories – Patrilineal and Matrilineal. A kinship group whose members claim but cannot trace descent from a remote common male ancestor is a Patrilineal. It is based on the principle of stipulated patrilineal descent.
- † On the other hand, a kinship group whose members claim but cannot trace descent from a remote common female ancestor is a matrilineal. It is based on the principle of stipulated matrilineal descent. Clans occur in societies of all levels of development and complexity and in all major geographical areas of the world. Examples of patrilineal are the Chippewa Red Indians of the United States, Nuer of Sudan, and Swazis of South Africa and also in traditional China and several parts of India.

Characteristics of Clans

elections are upon us once again, it's time we take a quick history recap of how patriarchy was appropriated in many places through a culture of matrilineal societies in India.

Matrilineal Societies



- ❖ Matrilineal societies in India have existed since time immemorial. The modernization of India after its colonial independence undeniably ruptured this practice as many towns and states came to be consolidated under the Indian Nation. Many tribes continue to practice this matrilineal social formation while others are subsumed under the larger patriarchal taste of our country.
- ❖ In India, states such as Meghalaya, Assam, Kerala and Karnataka stood witness to various tribes as they came to practice matrilineality in their families. Some of the most significant tribes are Khasi, Gora, Nair and Izhava. Though matrilineal families, in Kerala and Karnataka, are urbanized to patriarchal controls, the north-east still vehemently refuses to give up its age-old-traditions-for-favours-from-the-nation.

1. Meghalaya: Khasi Tribe and Garo Tribe



- ❖ Khasi tribe, which has become worldly known and appreciated as one of the matrilineal societies in India, gives primary importance to the women of the family where the eldest woman functions as the head while the youngest daughter inherits the property and the right to continue staying with her parents even after her marriage.

- ❖ Under this situation, the husband of the youngest daughter comes to stay with the girl's family or stays nearby in a different house. In conditions where a daughter isn't born, the family adopts a daughter, or it trickles down to the eldest woman's sister's daughter.
- ❖ But the eldest woman's brother plays a vital role in helping her govern the family - no decision is ever made without his consultation or agreement. Secondary to this, men still hold influential positions in politics; it is only the economic and domestic spheres that are left to the women. Otherwise, women hold limited or rare representation on a more practical and political field.
- ❖ The Garo tribe, second-largest tribe in the hills of Meghalaya, is one of the few surviving matrilineal societies. Much like its sister tribe, Khasi, the Garo tribe also follows similar patterns of matrilineal inheritance and descent from the eldest woman, and they take their surnames after her, even the husband of the daughters.
- ❖ These two tribes have subsequently maintained a matrilineal society but it very rarely counters patriarchy as men, brother in case of husband or father, continue to hold the reigns-over-the-matriarch-figures.

2. Kerala: Nair's and Ezhavas

- ❖ In Kerala, the Nair's are one of the matrilineal societies in India from before Kerala became a state. This group of castes and sub-castes lived under an older female member in a matrilineal household called Theravada.
- ❖ Theravada consists of many descendants who share the same ancestor. The husbands usually stay in separate rooms or altogether different houses and holds almost little to no responsibility towards their children. This responsibility, along with taking care of the common property as well as other decisions, falls upon the eldest male member known as the karnavan. The karnavan is the superior authority even though ancestral lineage follows from the eldest female member. It is believed that the karnavan favours his nieces and nephews over his children because of this lineage pattern.
- ❖ The Ezhavas, another one of the matrilineal societies, is also a community from Kerala. In northern Malabar, matrilineal communities have patrilocal arrangements while in northern Travancore, Ezhavas follow a matrilocal method of their property. Even in these communities, the importance given to the karnavan triumphs all the apparent power held by the matriarch. Since the Indian Nation was formed and Kerala as a State started to function, these communities have been suppressed and left with no other option but to align with the rest of the state and nation practices such that Ezhavas and Nair's are no more matrilineal communities in India.

3. Karnataka: Bunt and Billava

- ❖ In Karnataka, two prominent communities of the Tuluva ethnic group, namely Bunt community and Billava community follow matrilineal descent known as Aliyasantana. Aliyasantana is based on the legend of how a king refuses to sacrifice his sons when a demon demands their sacrifice to lift the drought that plagued the kingdom.
- ❖ Instead, the king's sister offers her son as a sacrifice. The demon then pardons them all, and the nephew then inherits everything from the king. It is this incident which constituted the Tuluva group into one of the matrilineal societies in India. In the communities Bunt and Billava, the inheritance travels through the sister, i.e., the eldest female member.

3b. Enumerate the evidence of animal domestication in the Indian microlithic industry.

MESOLITHIC IN INDIA(10000-4000BC)

- The Mesolithic age in India is believed to be 10,000-4000BC
- It is a combination of tools of upper paleolithic with advanced tools made of pressure flaking.
- The first finds of Mesolithic tools in India were from Vindhyan region. It is discovered by Carlyle in 1868.
- The first comprehensive and scientific study of Mesolithic sites in India was by H.D.Sankalia who focused on Gujarat and Rajasthan sites.
- Mesolithic sites in India are classified into:
 - Early sites
 - Recent sites.
- The early sites have been studied in 18,19 and 20th century.
- The recent sites have been studied in 21st century i.e after 2000.

Early sites

- Langnaj---Gujarat by Sankalia
- Bhimbetka and Adamgarh----Madhya Pradesh by Sankalia.
- Cauvery river basin---Tamil Nadu
- Bagar ----Rajasthan by B.N.Mishra
- Sarai Nahar Rai---Uttar Pradesh

Recent sites

- **Mirzapur**, U.P by R.K Verma.
- **Bidar**, K.K by H.D.Sankalia.
- **Chambal valley** by Joshi and Khare
- **Langnaj** –Gujarat by Sankalia: the bone tools were found in Mesolithic age. The bone tools were made up of rhinoceros bones.
- This site also provided geometric variety of microliths.
- Langnaj also provided human fossils with grave tools. This confirmed burial practices of magico-religious beliefs.

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Bhimbetka, MP by Sankalia: this site provided evidences of cave-living with entrance of the cave having artificial barrier (wind breaks) that are hanging from the ceiling to protect himself from environmental stresses.

- **Adamgarh:** the Mesolithic site with Mesolithic tendency i.e having an evidence of domestication of animals.
- In recent sites, the evidences are less in number. At **Bidar**, geometric and non-geometric microliths are found whereas **mirzapur and chambal valley** produced perfect geometric tools.

Conclusion

- This Mesolithic age stayed for a less time in the geological time scale but it is more significant because it acted as a vehicle from paleolithic to the neolithic age.

ANTHROPOLOGY

FULL COURSE

2022/2023/2024

NEW BATCH



STARTS FROM

OCT 20TH

2022

VISHNU VARDHAN
SIR



3c. Should we still distinguish between classic' and 'progressive' Neanderthals? ' Discuss the controversy, surrounding Neanderthal's position in human evolution.

Test Series – 8

Q) Critically discuss the statement "Europeans are closer to Neanderthals" and elaborate in view of the African origin of humankind

- ❖ In 2010 researchers found out that Europeans are actually likely to be closer to Neanderthal. In January 2014 an international team of leading archaeologists, geneticists, and anthropologists confirmed that humans outside Africa had bred with Neanderthals.
- ❖ Those of European and Asian ancestry have a very small but tangible presence of this now-extinct human in our lineage, up to around 4 percent of our DNA. People in Asia and Australia also bear traces of another known archaic human, the Denisovans.
- ❖ The discovery had important consequences. It raked up a controversial, somewhat marginalized scientific theory that had been doing the rounds a few decades earlier. In April 1992 an article had been published in Scientific American magazine with the incendiary title "**The Multiregional Evolution of Humans.**" The authors were Alan Thorne, an Australian anthropologist, and Milford Wolpoff, anthropologist based at the University of Michigan.
- ❖ They hypothesized that humans perhaps hadn't all come out of Africa. But this theory remains unproven. Academics in the West and in Africa today generally accept that humans became modern in Africa and then adapted to the environments where they happened to move to fairly recently in evolutionary time—these are only superficial adaptations, such as skin color

Body:

- ❖ Europeans may be closer to their Neanderthal cousins than previously thought, new research suggests.
- ❖ Breeding with Neanderthals has long been known to have left its traces in the DNA of modern Europeans.
- ❖ Scientists in Edinburgh have now confirmed that the genetic similarity between the two must have arisen after interbreeding in Europe and Asia, before our ancestors spread across the globe.

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- ❖ Scientists have shown that the genetic similarity between Neanderthals and non-African modern human populations must have arisen after interbreeding in Europe and Asia
- ❖ Previous research speculated that modern Europeans and Asians are related to Neanderthals because they originated from a similar sub-population in Africa. Both groups evolved from a common ancestor in Africa before spreading to other parts of the world.
- ❖ The two groups emerged at different times with Neanderthals leaving the African continent more than 200,000 years before humans did. Now scientists at the University of Edinburgh and Wageningen University found the species mated in Europe and Asia thousands of years ago.
- ❖ The research involved dividing up the genetic code of each sub-species to calculate the statistical likelihood of distant or recent interbreeding. They traced the biological ties that exist between humans and the ancient species which are believed to have died out around 30,000 years ago.
- ❖ The research found that the two per cent of neanderthal DNA which exists in people today came from the mating outside of Africa.
- ❖ As well as revealing details of the shared history of humans and Neanderthals, their research could be used to reconstruct the history of any species, including rare or extinct ones.
- ❖ Scientists said that modern Europeans share a number of genes involved in the buildup of certain types of fat with Neanderthals. The same genes were not seen in people from Asia and

Africa, however. It is thought that ancient genes might have helped Europeans adapt better to colder climates, giving them an evolutionary advantage.

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4a. Why Heath Carter used anthropometric measurements instead of photographs of an individual to assess the somatotype? Elaborate on their method.

Test series -10

Q) What do you mean by Anthropometric somatotype? Describe in detail heath & Carter's method of somatotype with present relevance and significance.

Test series -11

Q) Define Somatotype? Describe the salient features of somatotype. Write its present relevance and significance with the various Growth methodologies involved in it.

Test series -13

Q) What is an Anthropometric Somatotype? Critically elaborate its significance and challenges of Heath & Carter's method of Somatotyping in the present context

Introduction:

- ❖ Anthropometry, or anthropometrics, is the **study of human body measurements**. At its most basic, anthropometrics is used to help scientists and anthropologists understand physical variations among humans. Anthropometrics are useful for a wide array of applications, providing a kind of baseline for human measurement.
- ❖ Anthropometry is the primary focus of growth studies, so it is essential for the measurements to be of the highest possible quality.
- ❖ Anthropometry is the science of obtaining systematic measurements of the human body. Anthropometry was first developed in the 19th century as a method employed by physical anthropologists for the study of human variation and evolution in both living and extinct populations. In particular, such anthropometric measurements have been used historically as a means to associate racial, cultural, and psychological attributes with physical properties. Specifically, anthropomorphic measurements involve the size (e.g., height, weight, surface area, and volume), structure (e.g., sitting vs. standing height, shoulder and hip width, arm/leg length, and neck circumference), and composition (e.g., percentage of body fat, water content, and lean body mass) of humans.

Anthropometric Tools

To obtain anthropometric measurements, a variety of specialized tools (as depicted below) are used:

1. Stadiometers: height
2. Anthropometers: length and circumference of body segments
3. Bicondylar callipers: bone diameter
4. Skinfold callipers: skin thickness and subcutaneous fat
5. Scales: weight

Although the majority of the instruments appear straightforward to use, a high level of training is required to achieve high validity and accuracy of measurements.

Human composition measurements are based on the fact that the human body is composed of:

- Fat
 - Muscle
 - Bone
 - Connective tissue
 - Nervous tissue (e.g., the brain)
 - Organs (e.g., heart, liver, etc.)
 - Skin
- ❖ Typically, calculations of body composition assume that the skin, muscle, bone, and other tissues constitute lean body mass and the percentage of body fat differs between males and females (Approx. 28% vs. 40.5% for males and females, respectively).

HEATH AND CARTER CLASSIFICATION

- ❖ Here, the factors considered are: - Height, Weight, and CIRCUMFERENCE. For the first time rating is given to individuals.
- (I) ENDOMORPH - Endomorph reflects relative fatness and roundness in the individual body. - They are poor in physical fitness, eventually poor in athletics. - Heath and Carter recommended wrestling and heavy weight lifting for this group. - The rating is 7-1-1 (endo-Meso-ectomorph)
 - (II) MESOMORPH - Reflects relative muscular-skeletal development relative to height. - The best suitable sport is short put. - The rating is 1-7-1.
 - (III) ECTOMORPH - Linearity, high in physical fitness, the best in sport, typical long-distance runners. High flexibility and agility are the features of ectomorph. - The rating is 1-1-7.

Current Applications of Anthropometry

- ❖ While physical anthropologists and criminologists continue to use anthropometric measurements in the study of human evolution through the comparison of novel fossil remains to archived specimens and forensics, respectively, current applications have extended to:
- Industrial design and architecture (e.g., vehicle seating and cockpits)
 - Clothing (e.g., military uniforms)
 - Ergonomics (e.g., seating)
 - Medicine (e.g., nutrition, aging, obesity, sports science, and diabetes)

In these industries, anthropometric data is invaluable to the optimization of various products and to observe the changes which occur in response to various lifestyle, genetic, and ethnic factors.



Twentieth Century Anthropometrics

- ❖ In the twentieth century, a subdiscipline of anthropometrics, known as “morphometrics” was established to describe variations in size and shape of humans within distinct populations. This method involves the application of multivariate statistics to analyze various biological landmarks to obtain characteristic shapes, ratios, or angles.
- ❖ Today, the use of computers has resulted in the evolution of morphometrics into the field of geometric morphometrics which uses powerful computational modeling to analyze various characteristics. Today, one of the most common applications of geometric morphometrics is in the evaluation of bone density.
- ❖ Stature was commonly used as an anthropometric measurement of human health as early as the eighteenth century for military, slavery, and other productive purposes; however, while these early assessments were generally based on eugenic theories, it was not until the twentieth century that environmental and social conditions were correlated with human anthropometric measurements.
- ❖ Today, nutrition, infection, pollution, hypoxia, and various forms of psychosocial stress are known to be associated with altered growth patterns. Although a taller stature is an accurate indicator of increased wealth, weight is an indicator of a poor socioeconomic status in modern populations. Moreover, since nutrition has such a strong correlation with body size, anthropometrics has also been used to identify the impact of disease epidemics and times of famine in historical records. Similarly, major events in human history, such as the industrial revolution, the invention of refrigeration, sanitation, vaccination, and other medical advancements are also associated with changes in the anthropometric traits of human populations.
- ❖ The historical use of anthropometry has been applied to a wide range of applications, including:
 1. Palaeoanthropology and human evolution
 2. Biological anthropology
 3. Craniometry and craniofacial attributes
 4. Phylogeographic
 5. Criminology and Forensics
 6. Phrenology
 7. Physiognomy
 8. Personality and mental typology

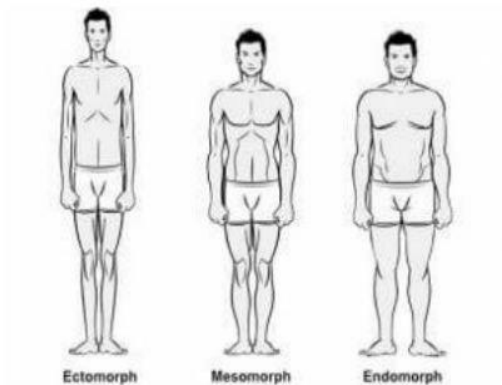
Anthropometric Somatotypes

- ❖ Anthropometric measurements can be used to describe particular human physiques, known as somatotypes. There are three main somatotypes as illustrated below (endomorph, ectomorph, and mesomorph), although some individuals may represent a hybrid of two somatotypes.
- ❖ The rating is phenotypical, based on the concept of geometrical size-dissociation, and applicable to both genders from childhood to old age. The Heath-Carter method of somatotype is the **most commonly used today**. There are three ways of obtaining the somatotype.

Endomorph

- ❖ An endomorph refers to humans whose tissues are predominantly derived from the endoderm, exhibited by a soft, round shape, large digestive viscera, fat accumulation, large trunk, and tapering extremities. The degree of endomorph is calculated based on the measurement of triceps, subscapular, and supraillia skinfold thickness corrected for height as an indication of the amount

of fat in the body. To ensure validity, these measurements are typically combined with at least one other measurement of percent body fat, such as underwater measurements.



Ectomorph

- ❖ Ectomorph refers to humans whose tissues are derived primarily from the ectoderm, exhibited by a linear body shape, large surface area, thin muscles, subcutaneous tissue, and moderately developed digestive viscera. Ectomorph is calculated by obtaining height and mass measurements and assessing the level of linearity. In the Heath-Carter method, a cubic relationship known as the cf Ponderal Index is used.

Mesomorph

- ❖ A mesomorph refers to humans whose tissues are derived primarily from the mesoderm, exhibited by increased muscle, bone, and connective tissue. Such individuals typically have a hard physique and rectangular shape, intermediate between the endo- and ectomorph. Mesomorph is calculated based on bone diameter and muscle circumference of two upper and two lower limbs, corrected for skinfold thickness, and compared with the individual's height as an indication of musculoskeletal development.

Heath-Carter Anthropometric Somatotype

- ❖ The various somatotypes can be calculated using the Heath-Carter protocol to obtain direct measurements of human body size, structure, and composition.

Size measurements involve:

- Head height, length, and width
- Head shape
- Sitting and standing height (provides an indication of the trunk height and lower limb relationship)
- Androgyny index (relative width of the shoulder and pelvis; typically, a good indicator of sexual dimorphism after puberty)

Structural measurements include:

- Height
- Weight
- Body mass index

4b. Discuss the historical and cultural contexts that led to superseding ethnocentrism with cultural relativism in anthropology.

Test series-1

Q) Define “cultural relativity” in its weak, intermediate, and strong forms. Why is understanding cultural relativity important in the objective study of cultures throughout the world?

Q) Write the differences between Ethnocentrism vis-à-vis Cultural relativism with suitable examples?

Test Series – 4

Q) Franz Boas and cultural relativism

AFC June 2022-Test 7

Q) Cultural Relativism

AFC June 2022- Test 7

Q) What is Culture Relativism? Why the concept of Culture Relativism has been so dear to anthropology? (20 marks)

Introduction:

- ✦ The concept of cultural relativism was given by Franz Boas against ethnocentrism. According to him, cultural relativism is to perceive every culture from its own lens rather than comparing it with one's own culture. He says every culture is unique and must not be compared or looked down upon.

Body:

- ✦ Cultural relativism or cultural relativity is the idea that **beliefs are affected by and best understood within the context of culture**. It is a theory and a tool used by anthropologists and social scientists for recognizing the natural tendency to judge other cultures in comparison

to their own and for adequately collecting and analysing information about other cultures.

- ✦ **Cultural relativity** (sometimes called cultural relativism) is a position, developed by early anthropologists, that states we must understand individuals in the context of their own culture.
- ✦ Cultural relativism states that different societies have different moral codes. Basically, you can think of a **moral code** as the widely-expected rules and norms within a society that help people determine what is wrong and what is right.
- ✦ culture can also demonstrate the way a group thinks, their practices, behavioural patterns, or their views of the world. For example, in some countries like China, it is acceptable to stare at others in public or to stand very close to others in public spaces.
- ✦ In South Africa, if you board a nearly empty bus or enter a nearly empty movie theatre, it is regarded as polite to sit next to the only person there. On the other hand, in a recent study of Greyhound bus trips in the US, a researcher found that the greatest unspoken rule of bus-taking is that if other seats are available, one should never sit next to another person. Numerous passengers expressed that “it makes you look weird”. These are all examples of cultural norms that people in one society may be used to.
- ✦ Norms that you are used to are neither right nor wrong, just different. Picture walking into a nearly empty movie theatre when visiting another country, and not sitting next to the only person in the theatre. Another person walks up and tells you off for being rude. You, not used to these norms, feel confused, and anxious. This disorientation you feel is an example of culture shock.

Culture Relativism-so dear to anthropology:

- ❖ Anthropologists are specialists in studying and understanding cultures and societies. They are expected to form a holistic image of the society they are studying. They use cultural relativism for having an unbiased opinion.
- ❖ To develop sensitivity towards the culture and people Not being judgmental while conducting fieldwork.
- ❖ Inculcate ethical values of empathy, and integrity in the research. Therefore, cultural relativism is very dear to anthropologists.
- ❖ However, an anthropologist must be cautious in dealing with cultural relativism. Examples – human rights violations, inhumane practices like sati, etc.
- ❖ However, there is a violation of human rights also because of Cultural Relativism Being culturally insensitive towards other cultures will encourage social evils among the communities like. Dawoodi Bohra Shia community of Jammu and Kashmir practices Female genital mutilation, if modern societies believe we are following Cultural Relativism, hence we will not bother about their practices, it leads to the human rights violation.
- ❖ It was first given by Franz Boas and considered among the dearest concept of anthropologists for an impartial study of people. While cultural relativism exempts some cultural variations from legitimate criticism, moralists believe that moral judgment is universal in nature. For example, while making the Universal Declaration of Human Rights.
- ❖ UN avoided moving towards radical universalism to avoid being seen as an organization, promoting Western values, and allowing countries to give primacy to culture, over universal human rights. As a result, nations use cultural relativism to limit the extension of UDHR in it., It leads to subsequent violations of human rights, like, as the use of barbaric punishment methods, especially in Islamic states, and limited political rights in China, due to ideology has taken as culture.
- ❖ Racial classification of the USA, or caste classification of India despite being a universal law to have all as equal. Thus, while cultural relativism is an important rule to be followed during socio-cultural studies, it should not be used as a tool by societies to keep cultural practices, which leads to violation of human rights of people, which are essential for a dignified life.

Introduction:

- ✚ **Ethnocentrism** is the tendency to look at the world primarily from the perspective of one's own culture. Part of ethnocentrism is the belief that one's own race, ethnic or cultural group is the most important or that some or all aspects of its culture are superior to those of other groups. Some people will simply call it cultural ignorance.
- ✚ Ethnocentrism often leads to incorrect assumptions about others' behavior based on your own norms, values, and beliefs. In extreme cases, a group of individuals may see another culture as wrong or immoral and because of this may try to convert, sometimes forcibly, the group to their own ways of living. War and genocide could be the devastating result if a group is unwilling to change their ways of living or cultural practices.
- ✚ **Cultural relativism** is the principle of regarding and valuing the practices of a culture from the point of view of that culture and to avoid making hasty judgments. Cultural relativism tries to counter ethnocentrism by promoting the understanding of cultural practices that are unfamiliar to other cultures such as eating insects, genocides or genital cutting.
- ✚ Despite the fact that cultural relativism promotes the appreciation for cultural differences, it can also be problematic. At its most extreme, cultural relativism leaves no room for criticism of other cultures, even if certain cultural practices are horrific or harmful.
- ✚ The concept of **cross-cultural relationship** is the idea that people from different cultures can have relationships that acknowledge, respect and begin to understand each other's diverse lives. People with different backgrounds can help each other see possibilities that they never thought were there because of limitations, or cultural proscriptions, posed by their own traditions

Differences

- ✚ Both ethnocentrism and cultural relativism contradict one another due to having their own set of beliefs and, therefore, they share no common ground. Both types of culture are different from one another and have different strengths and weaknesses.
- ✚ Ethnocentrism is the tendency to look at other cultures and judge it by the standard of one's very own culture. Basically, it's the idea that one's culture is the main standard that other cultures should be measured by. This type of behavior is normal because not everyone could be openminded
- ✚ Another example could be seen with Adolf Hitler during the Nazi Germany. Through history, we can see many choices leaders often make

is through ethnocentrism. During this heinous time period, Adolf ingrained the belief that humans born with blue eyes and blond hair were the superior race into his citizens. Jewish people were depicted to be evil and are sent to the concentration camps.

- ✦ Everyone in that time period worshipped Hitler and agreed to his ideology. Those who did not were judged harshly and were punished for their disagreements. The people who were sent to concentration camps obviously didn't deserve the torture they received, but options that differ from Hitler was very much oppressed and Germany became a nation where it would only be at peace as long as they follow in Hitler's beliefs and ideology.
- ✦ Continuing with the Hitler example, there were many strengths found upon how he led his people through the method ethnocentrism. First, before Hitler even rose to power, Germany was falling into depression from war. Children were starving to death.
- ✦ Some weaknesses on ethnocentrism are that the decisions people make can often be based on "unrealistic comparison." Ethnocentrism has always had the attitude that one's culture is more superior to the others. Every person on this planet has their own definition of "normal," so that means they all see things differently than most people.
- ✦ Ethnocentrism can cause societal polarization, meaning segregation. Throughout history it is proven that most people are scared of people, things, etc that are different than them and they find it difficult to embrace that change and diversity, therefore, they reject it — refusing to develop through intermingling ideas.
- ✦ Two groups whose culture conflicts and contradict with one another and view each other as being the one with the inferior culture is an example of societal polarization..
- ✦ The dilemma of international protection of human rights is the ideological conflict of Universalism and Cultural Relativism. Simply put, the concept of Universalism holds that each human being possesses certain inalienable rights simply because he or she is a human, regardless the national background, religious or political views, gender or age. The proponents of this concept claim that "the international human rights like rights to equal protection, physical security, free speech, freedom of religion and free association are and must be the same everywhere."
- ✦ The concept of Universalism bases on three fundamental jurisprudential theories- the natural law theory, the theory of rationalism, and the theory of positivism.

- ✚ The roots of natural law theory go back to the ancient times. The main point of this theory is that natural law is standing above manmade positive law and defines the eliminable human rights, which are necessary for all the nation-states.
- ✚ Rationalism, a closely related concept, “is a theory of universal laws based on a belief in the universal human capacity to reason and think rationally.” Rationalism supersedes the idea of divine origin of natural law with the theory that each individual is endowed with certain rights due to the universal capacity of all individuals to think rationally. Both natural law theory and theory of rationalism consider universal human rights not to depend on cultural diversities and specialties.
- ✚ Theory of positivism demonstrates the existence of universal human rights noting the acceptance and ratification of human rights instruments by vast majority of states regardless their cultural background.
- ✚ Cultural relativism is the assertion that human values, far from being universal, vary a great deal according to different cultural perspectives. From my point of view one of the major drawbacks of the theory of Cultural relativism is the perception of “culture” as something unchanging and stable. In fact, all types of Cultural relativism, be it Strong or Weak
- ✚ Cultural relativism, are based on stable conception of culture, which fails to recognize the flexibility of culture for social changes and ideological innovations.
- ✚ Indian tradition of sati is a bright example of human rights violation with cultural bases. An eighteen-year-old Rajput girl committed sati in 1987 during her husband’s funeral pyre. She was a university student and her marriage was insisted by her parents. There is no evidence whether she committed sati voluntarily or under pressure, however this case found a large response among Rajput society.
- ✚ As a sign of protest many human rights activists, both men and women, organized marches against the tradition of sati, meanwhile many others came out for the tradition, claiming that sati is a significant part of their ethnic culture.
- ✚ As one of the ancient nations, Armenians have their own unique cultural traditions and scope of ethics, though our traditions are more flexible to meet the challenges of time.

ETHNOCENTRISM VERSUS CULTURAL RELATIVISM

ETHNOCENTRISM	CULTURAL RELATIVISM
Ethnocentrism is judging other cultures based on the preconceptions originating in the standards and customs of one's own culture	Cultural relativism is the notion that a culture should be understood on its own terms, not using standards of another culture
Involves looking at another culture from the perspective of one's own culture	Involves looking at another culture by its own perspective instead of one's own culture
An ethnocentric individual will believe that his culture is better, 'correct' and 'normal'	A person who believes in cultural relativism understands that one culture is not better than another
	Visit www.PEDIAA.com

Conclusion:

- ✦ The main difference between ethnocentrism and cultural relativism is the **way in which you evaluate or assess foreign culture**. Ethnocentrism involves looking at another culture from the perspective of one's own culture, while cultural relativism involves looking at another culture by its own perspective instead of one's own culture.

4c. Critically examine various anthropological interpretations of the Kula Ring.

Test Series - 3

Q) What do you mean by economic anthropology and write about the contribution of Malinowski to the ceremonial exchange with suitable examples?

Test Series – 2

Q) What do you mean by Gift Exchange and Ceremonial Exchange in the market economy?

Test Series – 4

Q) Ceremonial Exchange

Test Series – 11

Q) Ceremonial exchange types and significance

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Q) Ceremonial Exchange

AFC June 2022- Test 7

Q) Ceremonial Exchange

Ceremonial Exchange:

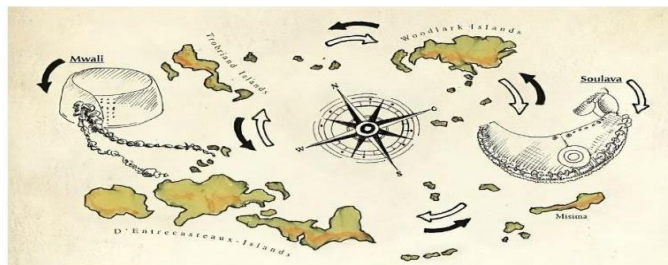
- ❖ A number of institutionalised exchanges are characterised as ceremonial exchange. They entail an element of religiosity or in the form of ritualised gift giving. Ex: Kula ring – exchange is done on auspicious day.
- ❖ Example potlatch system of Kwakiutl. Kula exchange Trobriander islanders. Malinowski 1922 argonauts of Western Pacific
- ❖ Exchange red shells soulwa and white shells mwali among islanders which has symbolic value. But brings **status**. Generally inherited. Local **leader** Ventures to the next Island while his associates carry out trade. **Discuss** issues and things. Crucial for their society. **social stability**. Renewable of **friendship**. Everlasting **obligations** of reciprocity. **Exchange** of goods and services. Absence of men created role of women in in society more. Matrilocal avunculocal system. Red is clockwise.
- ❖ Potlatch system in British Columbia and tribes. Surplus of rice collected by a person and invites others. tribal drink trance and consume the surplus in the evening and by night sit in a circle and burn the remaining surplus point it increases status of the person. since food storage is absent it eliminates rotten produce and diseases. Functional value.
- ❖ Define principles of maximization, demand supply, rationalization. But on a closer look it is rational, maximize socio cultural gain and focus on kinship ties. Kinship is focus.

1. Kula Ring

Melanesian exchange system

The Kula ring is a classic example of **Marcel Mauss' distinction between gift and commodity exchange**. Melanesians carefully distinguish gift exchange (Kula) and market exchange in the form of barter (mwali). Both reflect different underlying value systems and cultural customs.

- ❖ **kula**, exchange system among the people of the Trobriand Islands of southeast Melanesia, in which permanent contractual partners trade traditional valuables following an established ceremonial pattern and trade route.
- ❖ The kula is a ceremonial exchange of highly valued artifacts between the tribes living on the ring of Trobriand islands. It is based on a flow of soulava (long necklaces made out of discs of red shell) moving clockwise around the circuit and mwali (arm bracelets made of white shell) moving in the opposite direction.
- ❖ In this system, described by the Polish-born British anthropologist Bronisław Malinowski, only two kinds of articles, traveling in opposite directions around a rough geographic ring several hundred miles in circumference, were exchanged. These were red shell necklaces and white shell bracelets, which were not producers' capital, being neither consumable nor media of exchange outside the ceremonial system. Kula objects, which sometimes had names and histories attached, were not owned in order to be used but rather to acquire prestige and rank.



- ❖ Every detail of the transaction was regulated by traditional rules and conventions, and some acts were accompanied by rituals and ceremonies. A limited number of men could take part in the kula, each man keeping an article for a relatively short period before passing it on to one of his partners from whom he received the opposite item in exchange. The partnerships between men, involving mutual duties and obligations, were permanent and lifelong. Thus, the network of relationships around the *kula* served to link many tribes by providing allies and communication of material and nonmaterial cultural elements to distant areas.



- ❖ The exchange is regulated by detailed rules. These include the organisation of magical ceremonies and the establishment of lifelong partnerships between men from different tribes (Malinowski, 1922). The participants are introduced and vouched for by close relatives. Furthermore, the kula partnerships are inherited from one generation to the next (Ziegler, 2008).

Conclusion:

- ❖ The concept of reciprocity behind gift exchange has been extended into the field of ritual and religion. Thus, some sacrifices may be viewed as gifts to supernatural powers from which a return in the form of aid and approval is expected. Reciprocal social relations, as in the transfer of women in marriage between kin groups, is similar in terms of obligations and types of relationships to gift exchange

SECTION "B"

5. Write notes on the following in about 150 words each

5a. Balanced and transient genetic polymorphism.

Done 9.3 CONCEPT OF GENETI...

GENETICAL POLYMORPHISM:

- Phenotypic variations between individuals of a population and among various population is a universal phenomenon.

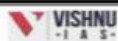
The reasons are :

1. Genetical variations
2. Environmental variations
3. Interaction between genotype and environment

- Genetic polymorphism is defined as presence of several distinct forms of a gene within a population with frequency greater than 1% i.e., distinct forms of genes cannot be maintained by mutations.
- The occurrence of 2 or more genetically determined forms of population is because of selection. If a trait frequency is more than 1% then it is sure that some selection is involved but the frequency is less than 1% then it is mutation.



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~ 2 ~

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- Population consisting of individuals with discrete and discontinuous genetic traits are said to be polymorphic where as those lacking such individuals are monomorphic.
- EXAMPLE: PTC phenylthio carbamide – which works as tasters and non-tasters to determine genetic polymorphism. This PTC will prove that population are genetically polymorphic.
- There are THREE TYPES of polymorphism:
 1. Permanent polymorphism
 2. Transient polymorphism
 3. Balanced polymorphism.

GENETICAL POLYMORPHISM:

- Phenotypic variations between individuals of a population and among various population is a universal phenomenon.
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where as those lacking such individuals are mono- morphic.

EXAMPLE: PTC phenylthio carbamide – which works as tasters and non-tasters to determine genetic polymorphism. This PTC will prove that population are genetically polymorphic.

There are THREE TYPES of polymorphism:

1. Permanent polymorphism
 2. Transient polymorphism
 3. Balanced polymorphism
- Permanent polymorphism: Several characters in the population more or less permanently polymorphic. Ex: ABO Blood Groups.
 - Balanced polymorphism: certain traits in a polymorphic population ,if in heterozygous then it shows superiority
 - EXAMPLE of heterozygous condition: In this condition, sickle cell trait will be developed but not sickle cell disease which helps in resisting malaria

Transient polymorphism: They shift their population in the direction of environmental change due to environmental demands.

examples: Industrial melanism in a moth

Anti-biotic resistance of bacteria to certain drugs.

- **CONCLUSION:** Polymorphism provides a population with alternative set of traits. In stable environment, it has little significance but under changing environmental conditions, population with polymorphic traits can explore adaptive success.



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5b. Genetic imprinting in human diseases.

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Done 9.4 CHROMOSOMAL ABE... 🔍 📍

~ 12 ~

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- Some will be converted to males and females with surgery and hormone therapy in early childhood.

Genetic Imprinting

- Genetic imprinting or Genome imprinting is a condition in which males or females stamp their genes with their marking. So that a gene for the same character trait from female behave differently with that of male, male behave differently with that of female.
- It is useful in identifying genes in the offspring either of paternal origin or maternal origin.
- Mendel gave "principle of equivalence" when tall and dwarf plants are crossed, it makes no difference here that which of the parents is male or female, here the dominant trait is important, no consideration for sex.
- Genomic imprinting is exception to the law of principle of equivalence, during its passage from male and female parents, the autosomes and sex chromosomes are stamped differently, so that they bear the marking from which of the parents they originated.
- Much of the autosomes are from two parents which are almost similar but behaviorally they differ in the expression.
- Eg: Huntington chorea- Autosomal dominant, source of this gene for offspring can be both paternal or maternal, symptoms will be same, but time of initiation and severity will be different it depends on male or female contribution.

Characteristics of Genetic Imprinting

- Imprinted genomes express differently
 - different magnitude of expression
 - different in time of their expression
- G.I is species specific, imprinting of genes vary from species to species.
- G.I is not a rule, this phenomenon is discovered only in some male and SOME female genes. A majority of the genes are unprinted.

Ex: a) PRADER WILLI SYNDROME-DEVELOPMENT DELAY, obesity DERIVED FROM PATERNAL.(paternal deletion of chromosome-15)

b) ANGEL MAN SYNDROME-MENTAL RETARDATION,

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Inappropriate laughing. DERIVED FROM MATERNAL (Maternal deletion of chromosome-15).

Genetic Screening

- Genetic screening is a measure to investigate into the incident of genetic diseases by testing apparently healthy individuals in order to control genetic disorders effectively.
- Genetic screening may be used in populations at risk for a particular genetic

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- Genetic imprinting or Genome imprinting is a condition in which males or females stamp their genes with their marking. So that a gene for the same character trait from female behave differently with that of male, male behave differently with that of female.
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Characteristics of Genetic Imprinting

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b) ANGEL MAN SYNDROME-MENTAL RETARDATION, Inappropriate laughing. DERIVED FROM MATERNAL .(Maternal deletion of chromosome-15).

5c. Stages of human prenatal development.

Done
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UNIT 10: CONCEPT OF HUMAN GROWTH AND DEVELOPMENT
- STAGES OF GROWTH- PRE-NATAL, NATAL, INFANT, CHILDHOOD, ADOLESCENT, MATURITY, SENESCENCE

• **GROWTH**

- Growth is defined as the net increase in the size of the mass of the tissues which include the process of multiplication of cells. It includes the process of DNA replication, increase in cell size.
- Indicators of growth are:-
 1. Weight for age
 2. Height for age
 3. Weight for height

• **DEVELOPMENT**

- It includes acquisition of variety of skills for optimum functioning of individuals. It specifies maturation of functions. Thus, growth pertains to structure and development pertains to function.
- For proper functioning of human body structure and functions should be integrated. Any delay in development (or) gaining of variety of skills (in the process of development) may reflect under development.
- Development is a matter of quality. One of the measurements of development is IQ.

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$IQ = MA/CA$, where MA= Mental age and CA= Chronological age

- The growth and development in children is a continuous process.
- The general body growth for girls is 18 years and boys is 21 years.
- For humans, the brain grows 90% in the first two years.
- The sexual organs mature by 14 years.
- The stages of growth in human beings are 7:
 1. Pre-natal
 2. Natal
 3. Infancy
 4. Childhood
 5. Adolescence
 6. Maturity
 7. Senescence

1. PRE-NATAL STAGE

- The pre-natal stage is classified into 3 stages:
 - i) Germinal stage (0-2 weeks)
 - ii) Embryonic stage (2-8 weeks)
 - iii) Foetal stage (8 weeks-birth)

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- Pre-natal means growth before birth of an individual. After fertilisation, the resultant egg is implanted into uterus where the placenta is formed and the embryo derives nutrition from the maternal blood which results in growth and development of the embryo.
- Growth in pre-natal stage is classified into 3 types:
 - i) Germinal or zygotic stage (0-2 weeks)**
 - The fertilised egg will take the shape of zygote. Here, there is formation of 3 germinal layers:
 - (a) Outer layer is called ectoderm (hair, skin, etc)
 - (b) middle layer is called mesoderm (internal parts of gonads)
 - (c) inner layer is called endoderm (lung cells, pancreatic cells, etc)
 - ii) Period of embryo (2-8 weeks)**
 - Here, head and arms are formed which is called organogenesis (regionalisation).
 - Apart from organogenesis there is histogenesis (formation of specialised tissues). Hence in this period different organs and tissues are differentiated, sex determination occurs during 5th to 10th week.
 - iii) Foetal stage (8 weeks to birth)**
 - The peak velocity of length of foetus will reach by the 18th week. Peak growth of weight is obtained by the 34th week.
 - Hence, birth weight and birth height in general reflects the maternal environment more than the genotype of the child.
 - Birth usually occurs approximately 280 days after the first day of the mother's last menstrual period.

VishnuVardhan

2. NEO-NATAL AND INFANCY (Motor capabilities and limb movements)

5d. Shaman, sorcerer, and medicine man.

Test Series – 2

Q) Critically evaluate the role of priest, shaman, and medicine man in the simple society. Write its present relevance and significance.

Test series – 11

Q) Magico-religious practitioners

d. Magico-religious practitioners

- ❖ The magico religious Practitioners are those who perform religious practices and magical practices. They are intermediaries between human beings and super natural forces.
- ❖ belonging to, or having the character of a body of magical practices intended to cause a supernatural being to produce or prevent a specific result (as an increase of the crops)
- ❖ In simple societies and complex societies there are some specialists to perform magico religious practices: There are 5 different magico-religious functionaries
 1. Priest
 2. Shaman
 3. Medicine man
 4. Sorcerer
 5. Witch

Priest

- ❖ Priest is a ceremonialist who operates as a representative of the group and under group aspects he works as intermediary between God and men.
- ❖ Priest is a member of religious organization, where he receives special training. Priests are present in simple societies but found mostly in mainstream societies with fairly elaborate cultures and organized religious cults having theological doctrines and standardized ceremonies.
- ❖ If the treatment is failed by the priest, then he is not subjected to criticism. The means of priests are prayers, offerings and sacrifices. The priest charges high prices for his service.
- ❖ E.g.: In Gonds, priests will enjoy higher social status, religious decision making is done by the priests.

Shaman

- ❖ The word shaman is taken from Siberia, the shamans are popular magico religious Practitioners.
- ❖ Shamans devotes part of his time serving as an intermediary between the super natural and the individual. [priest is of full time].
- ❖ Shamans are employed to determine the cause of an illness and to cure it. His functions are:
 - ❖ Works as a healer.
 - ❖ Weather controller
 - ❖ Locating the hunt
 - ❖ Where to find the resources
 - ❖ Disaster forecaster.

- ❖ E.g.: Yakut's and Chukchee's have shamans of Siberia region

Medicine man

- ❖ The term shaman and medicine man, both are synonymous, because the role played by shaman is similar to medicine man. The difference is medicine man is more concerned in treating illness which is because of natural origin and not of super natural origin. Solving health problem is more often the goal of medicine man.
- ❖ E.g.: In Chenchos an individual who is expert in Ayurveda will be treating the illness.

Sorcerer and witch

- ❖ Sorcery is a use of magic, super natural powers deliberately attempt to harm or destroy another person, group or community.
- ❖ The intention of witch craft is also the same. But the difference is sorcerers use materials for magic but witches use the emotions and feelings.
- ❖ In contrast to priest, shaman and medicine man, who have fairly high status in the society, whereas sorcerers and witches have low social status.
- ❖ Suspected sorcerers and witches are feared because they are taught to know how to invoke the super natural to cause illness, injury, and death. Most of the times the intentions of sorcery and witches are been frequently killed by the people.

Note:

- ❖ Assam Anti-Witch Hunting Act, 2019: This act gives a serious punishment to the community who injures/kills sorcerer's and witches.
- ❖ Maharashtra Prevention and Eradication of Human Sacrifice and other inhumane evil and aghori practices and black magic Act, 2013: First antisuperstition law in India.
- ❖ Karnataka Anti-Superstition Act, 2018.
- ❖ Recently Kerala placed in their assembly i.e., Kerala Anti-Superstition Bill, 2019.
- ❖ The famous NGO- Federation of India Rationalist Association was working since long time against superstition. The members of this group are Narendra Davokar, Gauri Lankesh, Karl Burgi these 3 are famous rationalists, authors, writers. They were been killed and they are the people behind passing of Anti-Superstition Bill, 2018. Technically called as Karnataka prevention and eradication of inhuman evil practices and black magic bill.
- ❖ The constitution under Article 51 clause(a) in Fundamental Duties asked for developing scientific temper and the spirit of enquiry and humanism.
- ❖ The states are making relevant laws but the central government is reluctant in formulating model Anti-Superstition Bill. There is a need for universal central law against superstitions

Present relevance of the Magico religious functionaries- case studies

- ❖ Religious beliefs and practices have long influenced human perceptions and uses of nature. Animals in particular play a prominent role in magico-religious practices and provide historical and cultural depth of these relationships. Understanding human-faunal relations is often fundamental to the cause of meaningful wildlife conservation. This study investigates the domestic and wild harvested species used for spiritual and religious purposes among the tribals of six tehsils of Udaipur district.
- ❖ The ethnozoological data were obtained by an emic approach, applying different tools such as semi-structured interviews, participatory rural appraisal, key informant interviews, and focus

group discussions. The scientific name and species of animals were identified using relevant and standard literature. Present investigation is a part of major concept worked out for study on tribal people and their beliefs

- ❖ The present study few years ago was undertaken to have an insight of the ethnozoological uses of animals prevalent in Bhil, Meena, and Kathodi tribes inhabiting the Udaipur district of Rajasthan. A total of 25 animals used for magico-religious and social purposes were recorded from the study area. Out of the total number of animals, 60% (15) were mammals, 24% (6) were birds, 12% (3) were reptiles, and the rest 4% (1) were the mollusks. Of the total ethnozoological practices, 64% fall in the magico-religious category, 12% in socio-cultural category, 12% in the category of ethnomusical, and 12% in the category of taboos.
- ❖ **Priests and associated organizations are present in both societies-simple and modern. The rise of priests is associated with the need felt by primitive man to come to terms with the supernatural world. In simpler societies, priests as well as Magicians are associated with the ability to communicate with the divine world.**
- ❖ The shaman is seen as the **intermediary between the spirits and the human world**, and they are believed to be able to communicate with spirits of the deceased.
- ❖ a medicine man is an **expert in techniques of contagious and sympathetic magic**. The term medicine man can be misleading in that it implies a gender-specific role. Most cultures that have medicine men also recognize women's ability to minister and heal and to become medicine practitioners.

Conclusion:

- ❖ The present study is based on the deep discussions with the tribal people and their beliefs in magico-religious treatment to cure a disease and maintain a general well-being. Indigenous people of the Udaipur district have the belief that diseases originate due to supernatural forces and they seek treatment through magico-religious practices. On the direction of Bhopas, the tribals offer prayers and sacrifices to appease the supernatural power, which may be responsible for the disease.
- ❖ The study reveals that traditional people depend on local therapies either magico-religious or natural due to the lack of awareness, modern medical facilities, expensive drugs, and poor transportation. The animal products are also common for varied uses, viz., ornaments, garments, musical instruments, weapons, and charms. These commonly used articles are now being transferred from one generation to another.

5e. Household and domestic group

Done 2.4 FAMILY.pdf

- The definition varies but not functions either historical, developmental or cross cultural.
- Case Study: Kathaleen Gough studied Nayar society of Kerala, In Nayar, Married women and her children live along with her sisters and brothers in 'Taravad' a matrilineal family. Husband is not permanent member of family but only a visiting member.

Family, household and domestic groups

- According to bohannan, a family is a kinship group marked by kinship relations.
- A house hold is a group of members living together who are related by blood or closely related or not related at all but fulfilling all functions of family.
- A household is a local or spatial group marked by propinquity (nearness) that means, a Household need not be made solely or even primarily as members of family. Even though, the norm is such that a household consists of family in some of the societies.

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- Eg: In santhals, a non kins man is considered as family members if he is staying in common residence who resides under same roof but will not be part of family production unit and resource holding unit

Domestic group definition

- It is given by fortes.
- "Domestic group is essentially a householding and housekeeping unit to provide the material and cultural resources needed to maintain and to bring up its members".
- The major features of domestic group are:
- Co-residence
- Production, consumption of economic subsistence (a social relationship).
- Participation in day to day affairs in domestic life.
- Kinship, descent and other bonds help in constituting a domestic group. They may not actually live under the same roof, there may be cluster of huts or houses to form a compound.

Functions of family

Biological	Social	Cultural	Economic
Reproduction(The task of perpetuating the pop'n of a society)	Identity to an individual	Helps in enculturation of children	Economic cooperation

6a. Discuss the mechanism of social control in different kinds of political systems.

Test Series – 2

Q) What do you mean by political organization and how do they maintain the law and order in the primitive simple and modern mainstream society?

Test Series – 11

Q) Write the types of political organization that maintained law and order in the simple society in the present scenario and critically evaluate how it prevails in the society to maintain law and order?

AFC June 2022-Test 7

Q) Explain the meaning and scope of political anthropology. Describe how law and justice are maintained in simpler societies.



Introduction:

- ❖ Political anthropology is a **subdiscipline of social and cultural anthropology concerned with the comparative, fieldwork-based study of politics and the political**. Between the 1940s and the 1970s it was a central area, especially of social anthropology in Europe.
- ❖ It concentrates on the ubiquity of political process and the functions of legitimate authority, law, justice and sanctions in simple societies. focus of power and leadership.
- ❖ It focuses on the Anthropological point of view in the formulation of the typology of political structures based on differences and similarities observed among the societies of the world and its political processes emerging among nations and complex societies. Moreover, it also studies political culture and the nation building processes.
- ❖ Political anthropology is the study of **socio-political organizations**. It is primarily concerned with the structure and forms of political systems from the viewpoint of societal framework. It tackles various aspects and scope of influence among people within an organized group/community.
- ❖ In the West, we are used to the idea of government within the framework of the state and through the medium of specialised political and legal institutions (e.g., parliament, police and law courts). Such forms are now found world-wide, but this has not always been so, and even today many peoples living within modern states rely to a great extent on other mechanisms for the maintenance of law and order.
- ❖ In societies where people live in closely-knit communities, and rely heavily on each other for economic assistance, the local maintenance of good social relations can be a matter of life or death. Many ways of dealing with offences and of settling disputes may be used. For example, in some society's community tensions are released through the use of ritualised insults. In others, divination is employed to discover the sources of conflict and aggression between people.
- ❖ Political anthropology examines and compares these diverse systems of social control. It also explores the power structures of societies, including the extent of consensus and the patterns of equality or inequality within them. It examines the ways in which leaders establish or bolster their authority through tradition, force, persuasion, and religion. It asks whether a society can have a legal system even without formal courts and written laws. It is also interested in the ways people resist excessive domination, both passively and through Robin Hood-style banditry and other means.
- ❖ One key area of study for political anthropology has been the effect of colonialism on subject peoples, and the ways in which western legal systems have been adopted and also adapted to their needs by non-western peoples. Another area of interest has been the role of ceremonial and ritual, for instance in the installation ceremonies of rulers, as a way of giving government an aura of legitimacy.
- ❖ As with other areas of anthropology, the study of diverse institutions can also lead us to a broader-based understanding of our own and other western social systems. Political anthropology has had interesting insights to offer us on such issues as national identity, ethnic conflict, the meaning of monarchy, and why people sometimes take the law into their own hands.

Political organisations in tribal society

- ❖ All societies have political systems that function to manage public affairs, maintain social order, and resolve conflict.
- ❖ Yet the Forms of these political systems are diverse, sometimes embedded in other social structures.
- ❖ Anthropologists recognize four types of political organization based on levels of political integration, -concentration, specialization. Political organization is found within bands, tribes, chiefdoms, and states.
- ❖ Nowadays, non-state forms of political organization have state systems superimposed on them

Classification of Societies, Band, Tribes, Chiefdom & State

Classification of Societies

- ❖ Societies have been classified in terms of their highest level is political integration, that occurs in terms of the nature of the political structure & authority. An eminent Anthropologist, Elman Service, classified societies into four kinds.
 1. Band
 2. Tribes
 3. Chiefdom
 4. State

Band

- ❖ Some societies are composed of bands which are the small and nomadic group of people. The earlier food collectors and hunting people had the band organization. Band is small in size and in population but exist an integrated system of political organization. The people were collecting their food from forests, seas and they started in summer to go out in search of food.
- ❖ They used to visit different regions in food search and settled there but there was no permanent place of their setting. Band is annually or seasonally classified or divided into small groups classified or divided into small groups which becomes other bands. Band societies are egalitarian societies and have no private property.
- ❖ The political organization is informal, in which no single person or place is nominated to decide any problem but the decision takes place collectively by the group. This political organization was found in almost all the societies before the agricultural period.

Tribes

- ❖ Tribal societies in the sense of political organization are the same as band societies. Their political system is egalitarian and informal. But the difference is that tribe's societies are food producers in which agricultural & husbandry is more important than food collection & hunting. The size of tribe's population is large and the groups are big as compare to band. In case of any external aggression, the integration of the people among kinship plays a vital role in defence and the bands are tight.
- ❖ The head of the tribe was nominated by the age and wisdom, so, the aged person was to be the chief or head of the tribe because of the agedness and experience. The aged man was the library of wisdom and had the experience to decide a situation. So, the political organization was informal.

Chiefdom

- ❖ Chiefdom has some formal structure, integrated community and rules populated and the position of the chief is hereditary & almost permanent. Chiefdom have more economic productivity and the chief have the authority of redistribution as compare the tribes' societies. The chief of a chiefdom posse a high status and rank in the society. He coordinate & mange the religious activities as well as labour responsibilities. He had the responsibility of directing and managing military activates. Chiefdom societies are practical in, south pacific chiefdom, Ayes and Tahiti etc.

State

- ❖ State is a self-governing unit surrounded by many communities within a territory, having the power and authority to collect taxes, use men for work & war and enforce laws. State has a formal system of written rules and regulation. The economic system is highly developed and having technology. State societies have its centralized political structure.
- ❖ State has many social institutions in which executive, legislature, Judiciary and a large bureaucracy is practicing. Different forces are used to control and defence indoor & out aggression control and defence indoor & out aggression of the country. For security purpose these forces include Army, Navy, Air force and various police. The implementation of law and order is with the help of these forces. These state societies are found all over the world presently.
- ❖ Social control is a characteristic feature of society. Society has its own ways and means of controlling the behaviour of its members. Co-operation no doubt exists in society. But, side by side, competitions, conflicts, tensions, revolts, rebellions and suppressions are also there. They appear and reappear off and on.
- ❖ Clash of economic or political or religious interests is not uncommon. Left to themselves, they may damage the very fabric of society. They are to be controlled. Hence social control is a vital component of a society to be adopted. Social control is defined as the regulation of individual or group behaviour as a method of enforcing conformity and compliance to established norms or expectations. Informal social control is the internalization of social norms and behaviour standards that allows a person to get along in their own society.
- ❖ It is the pattern of influence the society exerts on individuals and groups to maintain order and establish rules in the society. Social control helps in maintenance of desired social values. To control the social behaviour of its own members a society needs some control measures which can be expressed as some rules and regulations, in other way they can be called as Taboos. The word taboo in a strict sense refers to prohibition of types of behaviour because of some magical, supernatural or religious sanction.

Conclusion:

- ❖ Generally, the term is used more for the positive action (i.e., things ought to be done) and taboo in for a negative action (i.e., things ought not to be done). Taboos are often meant to protect the human individual, but there are numerous other reasons for their existence.

6b. What is meant by health? Is the burden of lifestyle diseases on the rise? Justify your answer with suitable examples.

Test Series – 8

Q) Write the meaning of Epidemiological anthropology and throw light on its scope during the context of covid 19 and examine its critical relationship with anthropology.

Test Series – 9

Q) Write the meaning of Epidemiological Anthropology and Describe the scope of Epidemiological Anthropology during the covid 19 and its critical role played.

1. Write the meaning of Epidemiological Anthropology and Describe the scope of Epidemiological Anthropology during the covid 19 and its critical role played.

Introduction:

- ❖ Epidemiological Anthropology is the **relation between the two sciences, anthropology and epidemiology**. It is the interdisciplinary approach to the study of health and its related issues like distribution, determinants and control.
- ❖ COVID-19 is a disease caused by germs (microorganisms), which directly affects the immune system within the respiratory tract and lungs of people.

Body:

- ❖ Both epidemiology and medical anthropology are **scientific disciplines that search for patterns of disease and behaviour**. They both have humanity at their core. The disciplines are separated by history and tradition -epidemiology tends to be statistical and quantitative, anthropology textual and qualitative, but this book brings them together
- ❖ It is as attentive to popular health culture as bio-scientific epidemiology, and the social construction of knowledge and politics of science as scientific discovery and hypothesis testing. Epidemiological anthropologists examine how the health of individuals, larger social formations, and the environment are affected by interrelationships between humans and other species; cultural norms and social institutions; micro and macro politics; and forces of globalization as each of these affects local worlds.
- ❖ In the context of covid 19 relationship between anthropology and Epidemiological is as follows, with the knowledge of anthropology and in connection with Epidemiological anthropology we can develop the new innovation related to eliminating the covid-19.

Relationship of anthropology with Epidemiological anthropology:

- ❖ Medical Science deals with health and disease in modern man and contemporary societies, whereas anthropology deals with traditional medical systems and their association with culture and society.
- ❖ Ackerhnet, for the first time brought out that, primitive medicine i.e., traditional medicine is not a fine collection of errors and superstitions, but it explains what place medicine occupies in the lives of simple societies or tribes.
- ❖ Anthropologists have done cross-cultural studies on people's reactions to the health program especially the western techniques, (put an example of shaman i.e., to ask shaman try his medicine and if it doesn't work out then western/modern medicines will get a chance to prove). Here the belief, attitudes and values of a community strongly influence people's interpretation of medical systems. Hence an anthropologist can give a clear idea to the primitive people about modern medicine because modern medicine is more rational and objective compared to traditional medicine.
- ❖ However, there is a separate sub-discipline within anthropology that deals with health and medicine in man is epidemiological anthropology. This sub-discipline makes a coordination between medical systems, cultural norms and the man.
- ❖ Both medical anthropology and medical science are concerned with the study of health and disease, however differently. Medical anthropology studies health and disease in primitive societies in socio-cultural dimension. It involves the study of sorcery, witchcraft, black magic, ritual practices, and herbal medicine in order to understand health and disease in tribal societies.

- ❖ On the other hand, medical science studies health and disease of modern societies in terms of biological factors- bacteria, virus, protozoa etc.

NUTRITIONAL STRESS IN MODERN SOCIETY:

- ❖ Prior to middle age, rice was used in South East Asia and some parts of the Indian subcontinent, maize in Central America, potatoes in South America, wheat in South West Asia, and millets in Africa and parts of China. However, during middle age, long voyages undertaken by several groups of people led to the worldwide dispersion of new domestic crops and animals. Rice cultivation was brought to Africa. The potatoes were also spread to many parts of the world. Horses, donkeys, cattle, sheep, etc. were introduced into America that provided essential nutrients to many native populations.
- ❖ Disruption of traditional diets and the introduction of new foodstuffs caused nutritional stress in many societies. The estimate of such stress in earlier times is not known completely but by the beginning of 20th-century epidemics of goitre, pellagra and beriberi were evident. In urban areas, the movement of people into the cash economies decreased the supply of proteins, making them costlier. Poorer sections of society in urban areas thus became victims of Kwashiorkor.
- ❖ Though nutritional stresses are declining in contemporary society, infectious diseases are being replaced by non-infectious diseases. Increased genetic heterosis is also indicated. Children in modern society are growing faster and taller. They are maturing sexually at an earlier age. However, in many third-world countries, nutritional deficiency diseases are still found on a large scale.

Conclusion:

- ❖ Epidemiological Anthropology confers to the determination, manifestation, and distribution of certain diseases and disorders in human communities spread all over the globe. The spectrum of disease-causing factors ranges from genetic to environment. Socio-cultural background also exhibits an influential role as human settlement patterns enhance the spread of diseases.
- ❖ The epidemiological aspects consider two kinds of diseases namely, infectious and non-infectious. Malnutrition is another contributory factor to the affliction of certain diseases. Nutritional stress is frequently observed during infancy and early childhood consequently causing infant and childhood mortality. Nowadays, nutritional stress is incident in different developing countries and affects different communities to a varying degree. So, with the knowledge of anthropology, we can use different health-related issues to resolve issues with the help of modern techniques through medical science.
- ❖ Medical anthropology studies health and disease in primitive societies in the socio-cultural dimension. It involves the study of sorcery, witchcraft, black magic, ritual practices, and herbal medicine in order to understand health and disease in tribal societies. On the other hand, medical science studies the health and disease of modern societies in terms of biological factors- bacteria, viruses, protozoa etc.

6c. Critically evaluate the reasons for the reduction in age at menarche in human females over successive generations

Test Series -10

Q) Discuss the Biological & Socio-Ecological factors influencing fertility, fecundity, and mortality in the present generation and measures followed by the medical professional in resolving the issues

Test Series -11

Q) Discuss the Biological & Socio-Ecological factors influencing fertility, fecundity, and mortality in the present generation with suitable measures to control it

Test Series -13

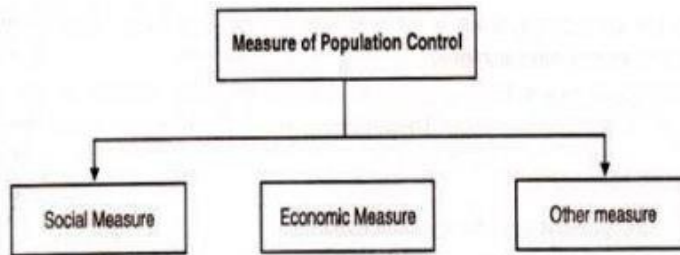
Q) Discuss the bio-cultural factors influencing fertility in light of the relationship between fecundity and fertility.

Discuss the Biological & Socio-Ecological factors influencing fertility, **fecundity**, and mortality in the present generation with suitable measures to control it (15Marks)

Introduction:

- ❖ Fertility is the natural ability of an organism to reproduce. The fertility rate of a female depends on the number of births. On the other hand, fecundity is the **potential specifically in a female to reproduce**. This suggests the potential and the rate of the healthiness of a female to reproduce and give birth to off springs.
- ❖ Age at marriage, present age, education status, family type, and preference for male child were the most important factors that affected fertility in the studied population.
- ❖ Fertility is the “ability” of a man and a woman to reproduce an offspring. **Fecundity** is, thus, calculated in terms of the number of babies a couple has. **Fecundity** of a population can be calculated in a similar fashion (birth rate).
- ❖ **Mortality**: it is about sudden death of an individual or gradual death. Here, we are concerned about the mortality of infants, children and women.

The factors influencing fertility, fecundity and natality are biological and socio-ecological. Ex: Baiga women Menarche age is 18 and Menopause age is 42.

STEPS TAKEN BY GOI CONTROLLING POPULATION**A. Social Measure:**

1. Minimum age of Marriage
2. Raising the Status of Women
3. Spread of Education
4. Adoption
5. Change in Social Outlook
6. Social Security

B. Economic Measures

1. More employment opportunities
2. Development of Agriculture and Industry
3. Standard of Living
4. Urbanisation

C. Other Measures

1. Late Marriage
2. Self-Control
3. Family Planning
4. Recreational Facilities
5. Publicity

BIOLOGICAL

According to Davis and Blake, there are 8 factors: -

1. PROPORTIONATE MARRIAGE - The age range where fertility varies is 16-25. high fertility age. The fertility in Bengal and Kerala is very low. In U.P., Bihar and Haryana it is very high.
2. USE OF CONTRACEPTION
3. INDUCED ABORTIONS
4. LACTATION INFECUNDITY - Because of lactation, almost no ovulation, hence no fertilisation and no pregnancy.
5. STERILITY - No ability for reproduction. - In males it is called azoospermia (no mobility of sperms) - In females, it is amenorrhoea (absence of ovaries which cannot fertilise)
6. SPONTANEOUS INTRA-UTERINE MORTALITY - Arises because of blood group incompatibility and Rh incompatibility.
7. Duration of fertility period is limited in females. It is in between 15-49 years.
8. Frequency of sexual intercourse

SOCIO-ECOLOGICAL

1. Women participating in work-force.
2. Rising socio-economic status of women.
3. Age at marriage.
4. Polygamy
5. Widowhood
6. Separation and divorce
7. Celibacy
8. Social customs and believes (in some societies, woman is treated as impure, hence contact with women is restricted which is leading to poor fertility). For example, Kharia tribe
9. Superstition
10. Occupation of spouses
11. Religion and caste

Mortality: it is about sudden death of an individual or gradual death. Here, we are concerned about the mortality of infants, children and women.

Reasons for mortality are: -

- 1) Famines and disasters
- 2) Epidemic (diseases)
- 3) Recurrent wars
- 4) Poor sanitary conditions

Reasons for infant mortality

1) Endogenous factors-

- a. Weight of the baby
- b. Efficiency of the immune system
- c. Age of mother

- d. Birth order (early delivery, etc.)
- e. Period of spacing between births

2) Exogenous factors

- a. Crowding and congestion (i.e., slums)
- b. Lack of sunshine
- c. Lack of hygiene and sanitation because of economic conditions
- d. Faulty feeding practices
- e. Epidemics caused by communicable diseases like dengue, etc.
- f. Illegitimate births (leading to abandoning of the baby)
- g. Education level of parents
- h. Sex of the infant

Factors affecting Mortality

- ❖ Mortality or death is affected by a variety of factors. They may be biological, physiological, social, environmental, etc. From the demographic view point, mortality is related to the age and sex of an individual. There is infant mortality, mortality of women at the time of delivery, mortality of man due to cancer of the prostate, etc.

1) Biological/genetic factors affecting mortality

- ❖ X-linked immune regulatory genes appear to contribute to greater female resistance to infectious diseases
- ❖ Inherent sex differences in reproductive physiology and anatomy contribute to higher female mortality for breast cancer and maternal mortality.
- ❖ There may be effects of male sex hormones on sex differences in behavior which contribute to male higher death rates for accidents and other violent causes.
- ❖ Genetic disorders like Tay-Sachs Disease, Trisomy 18 and 13, Cystic Fibrosis etc. have high mortality in early age.

2) Socio-ecological factors affecting mortality

- ❖ Prenatal and childhood conditions
- ❖ Marital status
- ❖ Socio - economic status and Income
- ❖ Education and literacy
- ❖ Migrant status
- ❖ Medical technology
- ❖ Age distribution
- ❖ Gender
- ❖ Access to food

7a. Discuss the role of evolutionary forces in creating human diversity.

Test Series – 8

Q) Write a brief outline on the concepts of evolutionary biology like Cope's rule, Doll's rule, and Gauss rule?

Q) Write a brief note on Darwin's theory of evolution in understanding Evolution and critically substantiate it with suitable examples.

Test Series – 9

Q) Do Allen's rule and Bergmann's rule hold for human populations? Implications of mutation in evolution with suitable examples and highlight their critical role in evolution?

Q) Critically elaborate on the Mendelian principles and their application to human populations in the present context.

Test series – 11

Q) Critically examine Darwin's theory of evolution in understanding Evolution with suitable examples."

Test series -13

Q) What is Organic Evolution & Write about the theories of organic evolution and critically analyze the theory in the present context.

Q) Give brief insight into Mendel's laws of inheritance in studying the human populations and highlight its implications and application in recent advancements in human genetics and human cytogenetics.

Introduction:

- ❖ Evolutionary developmental biology (evo-devo) originated as the attempt to bring together developmental biology and evolutionary biology and to conceptualize evolution as heritable changes in development

1.Cope proposed two laws in evolutionary biology.

1. Population lineage tend to increase body size over geological time.
2. Animals, which seem to be less specialized are found for much longer time in the fossil record.

Example: In carnivorous animals, there is interspecies competition for food, the relatively bigger species tend to dominate and kill smaller competitors. Early carnivores, were small scavengers like Fox. With selection favouring large size animals, there is increase in the size of animals.

- ❖ A very common trend in evolution, sometimes called Cope's Rule, is one forward increasing size of individuals.
- ❖ The original studies of the phenomenon were made upon vertebrates, but comparable studies have shown the same tendency in many groups of invertebrates and plants.
- ❖ A review of the palaeontology of almost any group shows that its largest representatives are not its earliest ones, though not necessarily its latest ones either.
- ❖ Newell has pointed out that species now living are the largest known representatives of the vertebrates, crustaceans and annelids.
- ❖ Yet the tendency towards size increase has been by no means universal. The rise of herbs and shrubs is a recent thing, and they have been derived from trees and other large plants.
- ❖ Hooijer has pointed out that the progressive size decrease has been characteristics of many vertebrate groups during the Quaternary period, which is now in progress.

Criticism: In the evolutionary line, as well as in the contemporary world. There are millions of animals who are small, still carnivores

2. Doll's Rule:

Dollo's Rule (Doctrine of irreversibility of evolution)

- ❖ Doll's principle is reversibility. A structure that changes its forms in evolution will not revert back to its earliest form. The reason behind his explanation is a change of natural environment in exactly stepwise reverse order, cannot be possible. That is occasion for reversed, natural selection is rare.

Example: primate evolution

- ❖ Many times, during the long history of life, advanced organism have returned to ancestral habits and modes of life.
- ❖ This gives selective value to adaptation similar to those of the ancestral species, and raises the question whether the evolution is reversible?
- ❖ Study of such cases suggests that due to commonality of environment and resultant functional adaptation, always a gross similarity between ancestral and descendent structures is achieved without any genuine reversal at all.
- ❖ Thus, many reptiles and mammals have reverted to an aquatic mode of life. They have assumed a generally streamlined, fishlike form, and the limbs have become shortened, webbed and finlike.
- ❖ Yet the skeleton of such flippers is always distinctly that of the class to which animal belongs rather than that of a fish fin.
- ❖ The evidence indicates that major evolutionary steps once taken, are never reversed. This is known as Dollo's rule after Louise Dollo (1895) to whom the principal is ascribed.
- ❖ It might even expect a priori, major evolutionary steps are compound of many smaller steps, each preserved by natural selection.
- ❖ That such a sequence, occurring by chance once should by chance be exactly reversed would be a most extraordinary thing. If not impossible, it is at least most improbable for whole organisms.
- ❖ Attempts to apply Dollo's law to individual characters have failed, for these are indeed reversible by mutation.

- ❖ A very common trend in evolution, sometimes called Cope's Rule, is one forward increasing size of individuals.
- ❖ The original studies of the phenomenon were made upon vertebrates, but comparable studies have shown the same tendency in many groups of invertebrates and plants.
- ❖ A review of the palaeontology of almost any group shows that its largest representatives are not its earliest ones, though not necessarily its latest ones either.
- ❖ Newell has pointed out that species now living are the largest known representatives of the vertebrates, crustaceans and annelids.
- ❖ Yet the tendency towards size increase has been by no means universal. The rise of herbs and shrubs is a recent thing, and they have been derived from trees and other large plants.
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- ❖ Darwin's book on "Origin of Species" in 1859, was the earliest one to put forward the theory of evolution through natural selection which stated that the entities, as a result of alterations in the inherited behavioural and physical characteristics, undergo changes over a period of time. These changes allow species to better adapt to changing environments, helping in the survival of offspring.
- ❖ One of the best-sustained theories has been the evolution of natural selection backed by evidence from a range of scientific disciplines such as genetics, geology, palaeontology, developmental biology, etc.
- ❖ The theory highlighted the main points as per Brian Richmond, which are – "All life on earth is connected and related to each other" and diversity of life is as a result of modifications of populations through natural selection wherein few characteristics were selected in an environment over others. Many times, the theory is referred to as "survival of fittest" which can be misled more often.

Natural Selection

- ❖ It is important to have a fundamental understanding of the mechanism of natural selection to comprehend the origin of whales. The phenomenon of natural selection can alter a species in a small way leading to a change in the colour/size of a population over generations. This is referred to as microevolution.
- ❖ In addition to this, the process of natural selection can accumulate changes and create an altogether new species referred to as macroevolution. This can transform amphibious mammals to whales, dinosaurs to birds and ancestors of apes into humans.
- ❖ Darwin also went to describe a natural selection form based on the success of an entity to attract a mate; a process referred to as sexual selection. Antlers of male deer, the plumage of peacocks are good examples of the characteristics, which were evolved in this type of selection.

Modern Interpretation

- ❖ Incorporation of genetics and Darwin's theory is referred to as modern evolutionary synthesis, which came after Pöbinger stated that Darwin noted the pattern of evolution only and could not put forward the mechanism. It came after the discovery of how genes encode different behavioural or biological characteristics and their inheritance.
- ❖ At the level of genes and DNA, the behavioural and physical changes occur making natural selection possible. These changes are known as mutations which are raw information on which evolution performs, added Pöbinger Random errors in replication of DNA repair, radiation or chemical damage can lead to mutations. These are mostly neutral or harmful and rarely beneficial. This tends to become prevalent in the upcoming generation spreading in the population.

POST DARWINIAN THEORIES

- ❖ The term **post-Darwinism**, in the sense of 'biology which comes **after** the period of **Darwinism**. The integration of genetics with models of natural selection shed tremendous light on, and strengthened Darwin's views on, evolution, here was the missing mechanism that introduced new variation into populations via mutation and recombination.the Modern

Synthesis led to advances not only in the study of evolution within populations, but also changes in the way species were defined, and in how new species were considered to form

POST DARWINIAN THEORIES:

1) Theory of isolation: given by M. Wagner

segregation of population due to geographical barriers.



no change to the individuals of segregating populations to meet and mate



natural selection in each segregating population



divergence of segregating population



formation of new species.

2) Theory of continuity of Germ-Plasm: by august Weisman

- ❖ He criticized Darwin's theory of pangenesis hypothesis and proposed the concept of somatoplasm and germplasm.
- ❖ Somatoplasm makes up all the bodily organs **except** the **reproductive cells**.
- ❖ During the process of fusion - Somatoplasm loose the capacity of reproduction whereas, germplasm retain its process to generate new life. Hence, the changes that occurs in somatoplasm aren't transmitted in the next generation while the changes in germplasm are Transmitted

C) Theory of mutations: Hugo de Vries.

- ❖ According to him Evolution is possible, if there is mutation, it means he wanted to tell that evolution is because mutation.
- ❖ He formulated the theory of mutation and gave his theory in 1901. He explained that evolution is because of large, discrete and sudden changes of variation, this variation he named it as mutation.
- ❖ According to De Vries, mutations are inheritable changes in the living organisms.
- ❖ Nature selects only those mutants which are suitable for survival and continuity.

(These "three post Darwinian theories - believe in the Darwin's natural selection. hence named as post- Darwinian theories".

Criticism:

- ❖ The critical analysis makes us believe that **variation results in a changed frequency of genes and alleles in the future generation**. Coupled to enhance reproductive success, natural selection makes it look like a different population and leads to new species formation. Examples of Natural selection

Conclusion:

- ❖ In the centuries and decades before Darwin formulated his theory of evolution, several Western European scholars came up with a variety of theories to explain the existence of organisms in their present form. In medieval times and afterward the prevailing view was in the fixity of species- that organism had been created in their present form and that they never changed.
- ❖ French naturalist Buffon and Charles Darwin's grandfather Erasmus Darwin stated a belief in evolution, but did not try to explain how evolution worked. French naturalist Jean-Baptiste Lamarck tried to explain how evolution worked, but his theories have now been discredited.
- ❖ French palaeontologist Georges Cuvier, on the other hand, rejected the notion of evolution altogether. He used a catastrophism theory to explain the extinction of old species and their replacement by more advanced species. Although Cuvier did not believe in evolution, he helped to introduce the concept of extinction and the appearance of new species.
- ❖ The ("three post Darwinian theories - believe in the Darwin's natural selection. hence named as post- Darwinian theories").

ANTHROPOLOGY

FULL COURSE**2022/2023/2024**

NEW BATCH

**STARTS FROM****OCT 20TH****2022****VISHNU VARDHAN
SIR**

7b. Write the historical development of fieldwork tradition in anthropology till recent times.

Test Series – 4

Q) Write a note on the evolution of anthropological fieldwork tradition evolved through the various stages?

Q) Evolution of fieldwork tradition in India

Test series – 11

Q) Evolution of Fieldwork tradition in Anthropology

Test series – 13

Q) Discuss the contributions of fieldwork in the development of anthropological concepts and theories

AFC June 2022- Test 2

Q) Write a note on the evolution of anthropological fieldwork tradition evolved through the various stages?

AFC June –Test 2

Q) Evolution of fieldwork tradition in India

Introduction:

- ❖ Fieldwork is central to the inquiry of anthropology. It can be said to have formed the foundation of the discipline. The famous anthropologist, Margaret Mead notes: "We still have no way to make an anthropologist except by sending him into the field: this contact with living material is our distinguishing mark."
- ❖ Fieldwork is equally important to socio-cultural anthropologists, physical anthropologists, and archaeological anthropologists. It is one methodology they follow in their distinct branches throughout their academic lifetime due to the remarkable awareness it provides.

Body:

- ❖ Fieldwork is the **study of people and their culture in their habitat**. Characterized by the prolonged residence of the investigator, his/her participation in and observation of the society, and his/her attempt to understand the inside view of native people and to achieve the holistic view of a social scientist.
- ❖ One of the basic features of anthropology, distinguishing it from other related subjects, especially ones from the social sciences, is the importance attached by anthropology to fieldwork.
- ❖ Fieldwork is defined as the first-hand observation of human societies to understand people and their culture in their natural habitat. The need for the development of fieldwork tradition was first realized as a reaction to remove the influence of armchair anthropology based on the values, attitudes, and ideas of western society, promoted by social anthropologists including LH Morgan and EB Tylor.
- ❖ Though some individual studies were done earlier also, it was Frans's boas who stressed having mandatory fieldwork (by end of the 19th century) before making any generalization. Along with his students, he started the fieldwork tradition and carried out many studies on the original inhabitants of America in British Columbia. Soon, large numbers of fieldwork were carried out by social anthropologists from Britain and America.
- ❖ By 1922, when Bronislaw Malinowski published the first detailed fieldwork "Argonauts of Western Pacific", fieldwork tradition became the hallmark of social anthropology and displayed the importance of participant observation (fieldwork technique) in the explanation of humanity.
- ❖ Malinowski set new standards and rules for immersion in tribal societies and understanding them.

The evolution of fieldwork is as follows:

- ❖ E.B. Tylor (1832-1917), one of our first-generation anthropologists who probably gave the most famous definition of culture and an advocate of the theory of human development (called evolutionism), did assist an amateur archaeologist in his field expedition to Mexico in the mid-1850s.
- ❖ Another contemporary of Tylor's and also a promoter of evolutionism, American scholar, L.H. Morgan (1818-1881) known for his studies on family, marriage, and kinship, conducted his first fieldwork among the Iroquois, a native American tribe in the 1840s.

- ❖ Morgan is influential in promoting the development and use of the genealogical method during fieldwork while studying family, marriage, and kinship.
- ❖ There was more fieldwork conducted by both the British and the Americans during the late nineteenth century. British stalwarts, W.H.R. Rivers (1864-1922) and A.C. Haddon (1855- 1940) organized the famous expedition to the Torres Straits in the Pacific, in Australia in 1898 and Franz Boas (1858- 1942), the revered American anthropologist, did his first fieldwork among the Eskimos in Baffin Island, Canada in 1883.
- ❖ Rivers focused on the understanding of kinship relations and by the time he studied the Todas of Southern India, anthropologists realized the importance of visiting and directly gathering knowledge of societies they were interested in rather than theorising from their homes.
- ❖ Boas has introduced new ways of doing fieldwork in anthropology where he emphasised on ethnographic fieldwork, cultural relativism and participant observation method.
- ❖ Bronislaw Malinowski, a Polish anthropologist, to fieldwork and the development of British social anthropology. Malinowski changed the way fieldwork was conducted in anthropological investigation. His published works based on his experiences with the Trobriand Islanders of Papua New Guinea enlightened the anthropological fraternity and others on how culture, society, and its people were to be researched coherently.
- ❖ He mainly stressed the following while doing fieldwork: Intensive ethnographic fieldwork; Participant observation; and Communicating in the local language.
- ❖ Women's entry into anthropology's fieldwork, once a male-dominated space, happened before World War I, with Elsie Clews Parsons one of the few women of her time who did fieldwork in the American Southwest in 1910. It was gradually held that women have more access to women respondents' lives, a point which was advocated by E. B. Tylor in the 19th century itself who suggested that wives should assist their husbands with fieldwork to assist in such areas.
- ❖ It was no surprise then that Boas' students, Ruth Benedict, Margaret Mead, Cora Du Bois etc. were women who did their fieldwork in the 1920s and 30s and became leading anthropologists of their time. In the late 1940s, women like Mary Douglas came to the forefront, doing her fieldwork in the Congo and became famous for her works on ritual purity and impurity and symbolism

Conclusion:

- ❖ The women through their research also brought in the notions of feminism and sexuality in their works and gave a much-needed twist to the anthropology that was practiced at that time. These advances in the history of anthropology set the ground for serious fieldwork methodology and established anthropology into a legitimate field science. This concise historical account now leads us to how fieldwork as a tradition in anthropology exists.
- ❖ Today, many new techniques have been added to fieldwork, like an interview, case studies, etc. for continuing the fieldwork tradition and extending the type of societies studied by anthropologists, for having a better understanding of the origin and development of the human from all perspectives.

7c. Discuss the approaches of Leslie White, Julian Steward, and Marshall Sahlins in the light of cultural evolution.

AFC June 2022- Test 2

Q) Write about the concept of Neo evolutionism?

NEO EVOLUTIONISM

- 20th Century EVOLUTIONISM School is called Neo-Evolutionism(N.E).
- 5 Anthropologists explained about the stages of evolution.

1)Universal Evolution-Gordon Childe, Leslie White

2)Multi Lineal Evolution-Julian Steward

3)General &Specific-Service&Sahlins.

Neo evolutionism as a theory evolved in 20th century tried to review the idea of evolutionism taking into account the aspects of diffusionism, ecology& Environment.

Acc to N.E, Evolution is considered not with mere culture change but with only that change which leads a culture to attain qualitative new level of integration.

Tenets of NEO EVOLUTIONISM

- 1)There are regularities in the general process of culture change through time.
- 2)Progressive evolution in technology
- 3)Progressive evolution in the range of social relationships.
- 4)Technology determines the range of social ties.
- 5)Evolution refers to adaptation to better or more efficient ways of living and organizing. This means that a tendency in human cultures will be found to reach for higher levels of development.

- White, in his book, "SCIENCE OF CULTURE" gave law of cultural development. Culture evolves as the amount of energy harnessed per capita per year is increased i.e cultural development is directly proportional to harnessing energy and technological development. In this book he also gave the following table explaining evolution.

Civilization	Machines and atomic energy	industrialization
Barbarism	Muscle and animal energy AND plant energy	Agriculture and pastrolism
Savagery	Muscle used and fire	Hunting and gathering

MULTI LINEAL EVOLUTION OF JULIAN STEWARD

- Julian Steward adopted ecological approach to study Multi-lineal evolution. The idea of adaptation is the heart of his approach. It is concerned primarily with evolution of specific cultures. His school name is also called as CULTURE ECOLOGY.
- Culture ecology studies about how the culture and humans adapts to the environment and make their lives secure and better. The idea of adaptation is heart of his approach. It is concerned primarily with evolution of specific cultures.

- He said that cultural evolution may be defined as a quest for cultural regularities or cultural laws and further pointed that there are 3 distinctive ways in which evolutionary data may be handled, this he mentioned in his book “Theory of culture”

- 1)Unilineal
- 2)Universal
- 3)Multi-lineal

Multi Lineal Evolution:

This is like unilineal approach dealing with particular cultures. But it is distinctive in searching parallels instead of Universals.(The differences is due to different adaptations of environment by humans).

It believes that there is no one line of evolution rather there are many lines of evolution.

Steward was concerned with explaining specific cultural differences and similarities. In this he advocated the study of cultural ecology, which analyzed the relationship between culture and environment.

Steward was of opinion that all cultures of the world have not passed through same development stages. He studied Mexico, Mesopotamian, Egypt and China cross culturally and came to a conclusion that these cultures have evolved in same developmental stages but in different areas like Oceania region the stages of development is different because of environmental changes.

For him social organisation is reaction to environmental factors. Hence he is famous for cultural ecology. For him Ecology is adaptation to environment i.e relationship between man and environment.

- Steward's cultural ecology approach included 2 fundamental concepts
- 1) Core features (vs) Peripheral features.
Techno-economic comprises the core features, rest all are peripheral features. Techno-economics are involved in harnessing energy from the environment. It shapes socio-political organization and ideology.
- 2) Culture Parallels: Cultures with same core features have same cultures and similar levels of socio-cultural integration. But Cultures with same Core features are very rare.

General & Specific Evolution

According to Sahlins & Service evolution has dual character namely Specific & General.

Marshal Sahlins and Elman service combined White and Stewards theory and gave two kinds of evolution.

Specific evolution which refers to the particular sequence of change and adaptation of a particular society in a given environment. Specific evolution is similar to stewards Multi-lineal evolution. Service who gave Specific evolution is follower of steward. Specific evolution is adaptive, it creates diversity.

- General evolution refers to general progress of human society in which higher forms arise and surpass lower forms. General evolution resembles Whites Universal evolution. General Evolution implies Uniformity and it is progressive in nature.

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8a. Discuss the contemporary population problems in light of various socio-cultural demographic theories.

2:02   

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11.2- DEMOGRAPHIC THEORIES- BIOLOGICAL, SOCIAL, CULTURAL

- Demographic theories- biological and socio-economic theories.

BIOLOGICAL THEORIES	SOCIO-ECONOMIC THEORIES
1) Thomas double day-diet theory. 2) Corrado-Gini theory of biological stages. 3) Herbert-Spencer theory of fertility function. 4) Josue de Castro theory of protein consumption.	1) Surplus population of Karl Marx. 2) Malthusian theory of population (resource population theory) 3) Voluntarism by Rich by Frank Fetter. 4) Principle of individuality –NITTI 5) Theory of increased prosperity –Brento 6) Easterlin's theory of parental aspiration.

- BIOLOGICAL THEORIES**

1) THOMAS DOUBLE DAY-DIET THEORY

- If population increases then food supply will decrease and hence population will decrease.
- Then decreased population will think that food supply is not enough and if they produce more population, more population will produce more food, then it reaches to constant fertility.
- Non-veg increases- population decreases because if more population dependent on non-veg, animals will become extinct and then population decreases.
- Vegetarian increases- population increases.
- Leanness favours fertility.
- Fatness reduces fertility.

2) CORRADO-GINI THEORY OF BIOLOGICAL STAGES

- The growth in population has ups and downs (it grows and reduces). For this reason, whenever there is increase in population, they depend more on natural resources, when natural resources overburden it leads to catastrophe and population decreases again. When population increases the earth cannot bear and this leads to catastrophe.
- He believed that population growth is always biological and not social or economical.
- Growth of human population follows the ups and downs of the population growth because of climatic variations.
- In first stage there is rapid growth of population, growth is eventually replaced by second stage of slowdown of population growth. Hence this theory is called theory of biological stages.

3) HERBERT-SPENCER THEORY OF FERTILITY FUNCTIONS

- As the time passes, reproductive phase of women decreases. He observed *Australopithecines*' fertility rates and *Homo erectus* and now *Homo sapiens* (decreasing order)
- Reproductive capacity of women decreases with time because of variations occurring in the human body.


4) JOSUE DE CASTRO THEORY OF PROTEIN CONSUMPTION

- No food leads to increase in fertility (estrogen in women increases which is responsible for increasing fertility). This eventually leads to increase in population.
- This theory supposed that less consumption of proteins by females is the cause of high fertility.

- SOCIO-ECONOMIC THEORIES**

1) SURPLUS POPULATION THEORY OF KARL MARX

- Labour class resources are taken away by capitalists.
- Labour class wants resources, hence produce children, these children will generate required resources.
- Capitalists, with fear of decrease in standard of living ->if they have more children-> Hence, produce less children.
- The labour class will wage revolution against the capitalists, thus the resources are equally shared between labours and capitalists. Hence there is population stabilisation.



8b. What do you understand by blood group systems? How is the HLA system different from those based on red cell antigens?

2:04 📶 🔋

Done Lecture No 82 & 83 (Unit... 🔍 📍

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- A Trait can be used as a genetic marker in the study of individuals, families (or) populations provided that the trait is genetically determined and has the simple pattern of inheritance and can be classified accurately and has variations common enough to permit it to be labeled as genetic polymorphism .
- Genetic marker is a gene (or) DNA sequence with known location on chromosome that can be used to an specific function of an individual (or) species.
- Several anthropological studies based on genetic markers were carried out to understand the genetic variations among the indigenous populations mainly to study regional, ethnic and religious groups to understand the genetic history and affinities of the populations.
- The Genetic Markers like blood groups, blood enzymes, HLA and serum proteins studied extensively to understand inheritance.

ABO BLOOD GROUPS

Blood group	Phenotype	Genotype	Antigen (on RBC)	Antibody	Remark
A	A	AA, AO	A	B	A, AB{YOU CAN GIVE TO}
B	B	BB, BO	B	A	B, AB{YOU CAN GIVE TO}
AB	AB	AB	A&B	NILL	AB (universal recipient)

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O	O	OO	NILL	A&B	A, B, AB, O (Universal donor)
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- Land Steiner in 1900 discovered that there are antigens (or) agglutinogens

📌

2:04



Done Lecture No 82 & 83 (Unit...



	Rh positive	Rh negative
Europe	85%	15%
India		7%

Human Leucocyte Antigen



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- In human beings, MHC (major histo compatibility) is simply called as HLA. The major function of MHC, it checks the quality of being tissue compatible and the ability of the donor tissue (or) organ to be accepted by the recipient.
- HLA are the human forms of MHC. This are the proteins located on the surface of the WBC. It occurs on the chromosome no.6.
- Arranging the foreign cells, tissues , organs into the body of a recipient known as Grafting (or) Transplantation. VISHNU VARDHAN• HLA is because of result of multiple allelism. Because of HLA, tissue and organ transplantation is becoming difficult for grafting, HLA's of two individuals should match.
- Therefore, tissue typing for this antigens is done on the membranes of Lymphocytes.
- Best success has been with tissue typing matches between siblings and between parents and children.
- There is no community variation, in the case of HLA, if it matched it can be used.
- HAPTOGLOBIN(Hp) It is the protein in the human being encoded by the Hp gene. It belongs to the globin class of proteins that binds with free haemoglobin released from the burst of erythrocytes.
- It helps in conserving iron from RBC under destruction by transporting free haemoglobin(iron) to liver. If iron reaches the liver, biliverdin(bile salts) will be produced. If produced in excess it leads to jaundice eventually the damage of liver and kidneys.
- It is often referred as suicide protein
- Frequency variation of Hp is found, High frequency of Hp deficient individuals are found in many tropical African pop'n.
- In western europe 40% pop'n have Hp deficiency and less in frequency in middle east.

TRANSFERRIN



ANTHROPOLOGY

FULL COURSE

2022/2023/2024

NEW BATCH



STARTS FROM

OCT 20TH

2022

VISHNU VARDHAN
SIR



8c. Discuss how anthropological knowledge of the human body may be used in designing equipment and articles of human use.

Test series – 10

Q) What do you mean by Kinanthropometry? Critically evaluate the role of anthropology in selecting and monitoring Sports persons and highlight the different methods they used.

Q) What do you mean by Applied Anthropology? And Discuss The applications and limitations of anthropometry in designing Défense and other types of equipment in the present technological advancement generations.

Test series- 13

Q) Write the meaning of Kinanthropometry and Critically substantiate the role of Anthropology in selecting and monitoring Sports persons

8. What do you mean by Applied Anthropology? And Discuss The applications and limitations of anthropometry in designing Défense and other types of equipment in the present technological advancement generations.

Introduction:

- ❖ Applied anthropology is simply "anthropology put to use" (to quote John Van Willigen). It is any kind of anthropological research that is done to solve practical problems. This means that there are stakeholders and clients who stand to gain or lose from the project.
- ❖ Anthropology can be used to solve problems in an enormous variety of fields. Here are some common examples:
 - ❖ Health and medicine
 - ❖ Business
 - ❖ Human rights
 - ❖ Education
 - ❖ Environmental issues
 - ❖ Community development
 - ❖ Museums
 - ❖ Disaster research & management
 - ❖ International development
- ❖ Design anthropology is a form of applied anthropology that makes use of ethnographic methods to develop new products, services, practices, and forms of sociality.
- ❖ Anthropometry is used as a set of techniques associated with methods of measuring and aids in the creation of design which suits individual needs. The term anthropometry was introduced by Georges Cuvier.

Body:

- ❖ The first use of anthropometry in anthropology was in physical anthropology where it was used to study human variability among different human races. Anthropometry comes from the Greek words, Anthropos (man) and metron (measure).
- ❖ Anthropometry uses data of body parts to design clothes, tools and apparatus. Ergonomic anthropology uses technology, engineering, physiology and psychology and ergonomics.
- ❖ "Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies

theory, principles, data and methods to design in order to optimise human well-being and overall system performance.”

- ❖ Design anthropology is a form of applied anthropology that makes use of ethnographic methods to develop new products, services, practices, and forms of sociality. It is reflective with its foundation squarely rooted in anthropological theory and methods, yet also deliberately and openly prescriptive with its future-making design orientation.
- ❖ While design anthropology, with its use of ethnographic theory and methods, lends itself well to the application of design in business, not all design anthropology models are created equal.

Role of the anthropology in designing the equipment

- ❖ Anthropology has always had an important place in Design Thinking, since the founders of this methodology already included anthropologists in their projects. In many ways these two disciplines are aligned and are a perfect match. Both consider that experience is personal, subjective, and contextual.
- ❖ E-Lab is important because it fostered an equal partnership between research and design, with teams of roughly equal representation and influence, and ethnographic methods were the core of their research methods.
- ❖ The cross-cultural and trans-historical scope of their discipline enables anthropologists to explore the cultural and symbolic meanings of clothing, examine continuities and changes in dress practice in contexts of socioeconomic and political transformation, and undertake comparative studies in more depth and detail.
- ❖ Applied anthropology is simply "anthropology put to use" (to quote John Van Willigen). It is any kind of anthropological research that is done to solve practical problems. Anthropology can be used to solve problems in an enormous variety of fields.
- ❖ The measurement done through anthropometry concentrates on bodily characteristics like body composition and body shape, which is known as static anthropometry and measurement of the body's movement and strength capacities and how space is used. This is known as dynamic anthropometry.

The Theoretical and Methodological History of Design Anthropology

- ❖ Building on a long lineage of thought from the social sciences, design anthropology can trace its roots back to the interdisciplinary field of material culture which brought together history, sociology, psychology, archaeology, and anthropology to understand the creation and consumption of objects, as well as the meaning ascribed to objects.
- ❖ Material culture studies are relevant to design anthropology because physical objects, and increasingly in intangible objects, play a role in mediating relationships between humans through time and space. In fact, within material culture studies as well as design anthropology, researchers are more interested in the sociality that surrounds the object such as the behaviours and rituals that the objects create or takes part in.

Early Design Anthropology

- ❖ Building on the theoretical and methodological foundations that came before it, design anthropology as an applied practice grows out of the confluence of the multiple disciplines which include design and anthropology but is by no means limited to them. The trend of blending disciplines seems to have arisen in its modern context with information technology in the early 1990s as a result of the new challenges it presented in the forms of intangible objects and radically new forms of sociality.

- ❖ At that time, design consulting firms like IDEO, Fitch, and frog were starting to bridge industrial design and engineering. Similarly, larger research labs like Xerox PARC, Microsoft Research, and Bell Labs technologies had been bringing together communication designers, usability and human factors engineers with social scientists from anthropology, linguistics sociology, and psychology. The goal was to “understand how people thought machines worked, to understand the interactions between people and technology, and the reciprocal impact of organizations, practices, and technologies on one another” (Clarke, 2017).

The Design & Anthropology Collaboration Matures

- ❖ Building on those foundations of these earlier movements, pioneering design firm E-Lab helped to bring design anthropology into its own right by fostering a model of collaboration between designers and anthropologists, thereby bringing together design and ethnographic practice (Wasson & Metcalf, 2013).
- ❖ E-Lab is important because it fostered an equal partnership between research and design, with teams of roughly equal representation and influence, and ethnographic methods were the core of their research methods (Wasson, 2000).
- ❖ This was important because, before ethnography, cognitive psychology was the social science research model of choice (Norman, 1988). The problem with this previous model was that it mostly accounted for what the user was thinking, and often failed to understand the larger institutional and cultural contexts that the use was embedded in (Robinson, 1993).
- ❖ Furthermore, before the greater degree of equality between research (anthropology) and design that E-Lab promoted, anthropology was often just a complimentary practice to design or usability testing, as opposed to “informing design to re-framing social, cultural and environmental relations in both design and anthropology” (Kjærsgaard, 2011).

Conclusion:

- ❖ Likewise, design anthropology should no longer be thought of as research in service of designed artifacts, nor an anthropological study of design. Instead, design anthropology should be thought of as a philosophy and practice for creating a true partnership among stakeholders with the goal of designing for good, by being aware of the past, but seeking to positively transform the future.

b) Write the meaning of Kinanthropometry and Critically substantiate the role of Anthropology in selecting and monitoring Sports persons (15Marks)

Introduction:

- ❖ Kinanthropometry is the science which deals about application of the knowledge of anthropology in several sports categories. It deals about the interface between human anatomy and body movements.
- ❖ It refers to the application of a series of measurements made on the body in the field of sports. The term Kinanthropometry is coined by Bill Ross, who defines as the study of human science, shape, composition etc in order to help to understand growth of individuals and his performance in different sports, that examines the interplay of heredity and environment in the field of sports. Kinanthropometry aims at identifying the fit genotype with a set of qualities required for a sport.

Body:

- ❖ Kinanthropometry involves obtaining measurements of the human body for the application of human movement. Such measurements include body proportions, composition, somatotype, maturation, motor ability, cardiorespiratory capacity, and physical performance. Therefore, kinanthropometry is highly aligned with the related disciplines of physical education, sports science, paediatrics, physical anthropology, gerontology, and ergonomics.
- ❖ Kinanthropometry is the **interface between human anatomy and movement**. It is the application of a series of measurements made on the body and from these we can use the data that we gather directly or perform calculations using the data to produce various indices and body composition predictions and to measure and describe physique.

Scope of the Kinanthropology:

- ❖ Kinanthropometry studies the body physique of individuals to suggest a suitable sport.
- ❖ Various aspects like stature, body weight, body fat, length of the limbs and their proportion, bone weight and wrist movements are considered in suggesting appropriate sports in the younger age and helps into continue the same and to practice specific sports in order to escalate in that sport for his development
- ❖ By doing so, Kinanthropometry helps in talent identification. This field is actively taken up in Australia, where skeletal features are analysed to suggest sports to individuals at schools.
- ❖ For instance, carter and young studied swimmers, according to them, moderate fat is needed for swimmers as it provides easy balance in the water, which is found in Eastern European countries.
- ❖ Thus, the contribution of kinanthropometry to the field of sports is immense.
- ❖ However due to lack of awareness, lack of recognition of knowledge of this field and financial constraints, its contributions are hardly recognized in the developing countries.
- ❖ Hence there is a need for encouraging anthropological studies in sports mainly in the countries where there is poor performance

Definition of Kinanthropometry

- ❖ According to the language, kinanthropometry consists of three words from Greek, namely **kinein** which means to move, **Anthropos** which means human and **metrein** which means to measure. Kinanthropometry refers to the dynamics of the quantitative relationship between human structure and function.
- ❖ Definition of kinanthropometry is a study of about measuring the effect on the shape, proportion, composition, maturity, and the nutrients a person to understand the characteristics related to human movement up to achievement in sport. Briefly speaking, the definition of kinanthropometry is the measurement of the human body for the application of human movements. These measurements include many things, such as body proportions, composition, body type (somatotype), maturation, motor ability, cardiorespiratory capacity and physical performance.

Functions and Roles Kinanthropometry on Sports Field

- ❖ Kinanthropometry have an important role in a variety of sports, such as:
 1. **Become a determinant of sports that can maximize the achievements of each athlete**
 2. **Assessment of maximum oxygen volume (mm / kg / min) in the fitness status of athletes**
 3. **Metabolic equivalent (MNT) measurement**
 4. **Assessment of fat composition, bone, water content and muscle mass.**
- ❖ Additionally, kinanthropometry have an important role in monitoring **the development of the athletes**. In monitoring the development of each athlete on talent selection in sports becomes

less effective and productive if the trainer does not know the growth rate that occurs in athletes.

- ❖ Not only athlete's physical fitness, athlete measurement becomes an important thing in professional sports. This happens because the measurement results are used as benchmarks to examine athletes of all possibilities. Because of that all the possibility of victory in national or international matches is increasing.
- ❖ Kinanthropometry is also often applied by foreign coaches in sports training (as in the country of India) because kinanthropometry deals with various problems they encounter in the field.

Implementation Kinanthropometry in Sports

- ❖ By applying kinanthropometry, there are several things we can understand about the growth and development of athletes through the characteristics of athletes. These characteristics will be useful for the following:
 1. Body characteristics can help athletes to maximize the portion of exercise they need.
 2. And also, the characteristics of the body can provide some recommendations for the type of exercise in accordance with his body shape.
- ❖ For example, athletes who have ectomorph body components. The characteristics of ectomorph body shape are slim and thin body shape and have a narrow chest. Ectomorph body types are not always characterized by tall people. This is indicated by the results of the relationship test which showed no significant relationship between height and the ectomorph component.
- ❖ In addition, athletes who have ectomorph body shape are difficult to increase their muscle mass because they have high energy expenditure and it is difficult to increase muscle mass. However, athletes with ectomorph bodies tend to have the advantage of having a light weight, so they are easily moved.

The Best Kinanthropometry Measurement Tool

- ❖ To support the need to carry out all measurements (ranging from height to width of the bipicondylar humerus) quickly and effectively, Solo Abadi offers a kinanthropometry measurement tool called the Portable Anthropometry Kit.
- ❖ Portable Anthropometry Kit is a measuring tool kinanthropometry that can calculate the entire outside of the human body. Portable Anthropometry Kit consists of various tools with different functions.

1. Anthropometer

- ❖ **Anthropometer** is an instrument that is usually used in sports, anthropometer becomes one of the important parts used to measure the human body. This instrument consists of several beams which can be combined according to height measurement requirements. In addition, at the end of the beam two sliding blocks can be installed which will be used to measure certain body areas. Some measurements that can be done using the anthropometer itself are:

1. Acromion Radiale Length

2. Acromial Height Sitting
3. Acromial Height Standing
4. Waist Height
5. Arm Inseam
6. Arm length
7. Cervicale Height
8. Interscye Distance
9. Radiale-Styilion Length

2. Sliding Calliper

❖ **Sliding calliper** is an instrument used in vertical body measurements with smaller scales such as the length of the palm, length of the hand and others. We designed this tool in detail so that it can be used to measure shorter areas of the human body. Some measurements that can be done with a sliding calliper are:

1. Neck Height Behind
2. Malleolus height lateral
3. Malleolus's height medial
4. Finger length
5. Spherion height
6. Hand Length
7. Hand Width

3. Small Spreading Calliper

❖ And finally, the small spreading calliper used in measuring circular bodies, such as head circumference, chest circumference, hand circumference and so on. The small spreading calliper that we produce has a pointed tip type that is used to measure body areas in more detail and without worrying about hurting the part to be measured. Some measurements using small spreading calliper:

1. Face breadth
2. Head Length
3. Total Face Height
4. Minimum Frontal Breadth
5. Bigonial Breadth
6. Height of Lower Face
7. Biepicondylar width of humerus
8. Biepicondylar width of femur

❖ Anthropometry Kit that we produce is made of stainless-steel material, so the level of damage to this anthropometric measuring instrument is very small. In addition, the Portable Anthropometry Kit container is specifically designed to maintain its quality.

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- ❖ Hence there is a need for encouraging anthropological studies in sports mainly in the countries where there is poor performance.
- ❖ Undernutrition is a serious health problem and highly prevalent in developing countries. There is no as such confirmatory test to measure undernutrition. The objective of the present study is to determine a new Composite Score using anthropometric measurements. Composite Score was then compared with other methods like body mass index (BMI) and mid-upper arm circumference (MUAC) classification, to test the significance of the method.

Methods

- ❖ Anthropometric data were collected from 780 adult Oraon (Male = 387, Female = 393) labourers of Alipurduar district of West Bengal, India, following standard instruments, and protocols.
- ❖ Nutritional status of the study participants was assessed by conventional methods, BMI and MUAC. Confirmatory factor analysis was carried out to reduce 12 anthropometric variables into a single Composite Score (C) and classification of nutritional status was done on the basis of the score. Furthermore, all the methods (BMI, MUAC and C) were compared and discriminant function analysis was adopted to find out the percentage of correctly classified individuals by each of the three methods.

Result

- ❖ The frequency of undernutrition was 45.9% according to BMI category, 56.7% according to MUAC category and 51.8% according to newly computed Composite Score. Further analysis

showed that Composite Score has a higher strength of correct classification (98.7%), compared to BMI (95.9%) and MUAC (96.2%).

Conclusion

- ❖ Therefore, anthropometric measurements can be used to identify nutritional status in the population more correctly by calculating Composite Score of the measurements and it is a non-invasive and relatively correct way of identification.