
UNIT 4 RACIAL CLASSIFICATION

Contents

- 4.1 Introduction
- 4.2 Controversy Related to Term Race
- 4.3 Formation of Races
- 4.4 Basis of Racial Classification
- 4.5 Racial Classification
- 4.6 UNESCO Statement on Racial Classification
- 4.7 Summary
- References
- Suggested Reading
- Sample Questions



Learning Objectives

After you have gone through this unit, you would be able to:

- comprehend the concept of race;
- elucidate the controversy regarding race terminology;
- understand the factors responsible for formation of race;
- recognise the basis of racial classification; and
- appreciate the racial classification with comparison to physical features of major races of the world.

4.1 INTRODUCTION

Race refers to classification of humans into relatively large and distinct population groups based on appearance through heritable phenotypic characteristics, often influenced by and correlated with culture, ethnicity and socio-economic status. Race is a concept, applied in various senses, even by human biologists. In the present context we are concerned with anthropological or biological concept of race. As a biological term, race denotes genetically divergent human populations that can be marked by common phenotypes.

Among humans, race has no cladistics significance- all human beings belong to the same hominid subspecies, 'Homo sapiens sapiens', each differing from other populations in the relative commonness of certain hereditary trait (www.enotes.com).

Hooton (1926) has defined race in **essentialist concept** as “A great division of mankind, characterised as a group sharing certain combination of features, derived from their common descent, and constitute a vague physical background, usually more or less obscured by individual variations, and realised best in a composite picture.”

Mayr (1969) has given the **taxonomic concept** of definition as “A subspecies is an aggregate of phenotypically similar populations of a species, inhabiting a

geographic subdivision differing taxonomically from other populations of the species.”

Dobzhansky (1970) has defined race in **population concept** as “Race are genetically distinct Mendelian populations. They are neither individuals nor particular genotypes; they consist of individuals who differ genetically among themselves.”

Montagu (1972) has defined race in **genetical context** as “a population which differs in the frequency of some gene or genes, which actually exchange or capable of exchanging genes across boundaries and separate it from other populations of the species.”

Templeton (1998) has given the **lineage concept** of definition as “A subspecies is a distinct evolutionary lineage within a species. This definition requires that a subspecies, genetically differentiated due to barriers occurring in genetic exchange that have persisted for long periods. The subspecies must have historical continuity in addition to current genetic differentiations.”

In short, the term ‘race’ is applied to a physically distinctive groups of people, on the basis of their difference from other groups in skin colour, head shape, hair type and physique. Anthropologists take the word ‘race’ in its zoological sense. “If the people of one race may be distinguished by physical markings, then they constitute a race.”

While dealing with the definition of race anthropologists have considered few related facts. For example, national, religious, cultural and geographical inhabited human groups should not be confused with racial groups. The Indians or Pakistanis do not form a race, nor do the Persians or the Germans. These are national or religious groups. In the same way the Dravidians do not constitute a specific race, they are linguistic groups. Therefore one should be cautious enough in applying the term race to a particular human group.

On the other hand, the concept of racial ‘superiority’ or ‘inferiority’ has created various problems in human society. This concept is not based on any scientific or anthropological facts. The scientists and anthropologists have never accepted the misconception related to superiority and inferiority of races.

In anthropological sense, the word ‘race’ should refer to those human populations, who possess well developed, primarily heritable physical differences from other human populations.

4.2 CONTROVERSY RELATED TO TERM RACE

The word race is applied in a variety of ways, various aggressive actions from first-fights to large scale riots and countrywide civil wars- have stemmed from tension and misunderstanding among various “races”.

Race science was never just human classification. It presupposed to be a distinctive relationship between “nature” and “culture”, by understanding the differences in the nature and to generate different kinds of persons and the distinctive stage of cultures and civilizations that inhabit the world (www.enotes.com).

Craig Venter and Francis Collins jointly made an announcement of the mapping of human genome in 2000. Upon examining the data from the genome mapping, Venter realised that although the genetic variation with human species is on the order of 1-3% (instead of the previously assumed on 1% per cent), the types of variations do not support the notion of genetically defined races (www.enotes.com). Venter stated that ‘Race is a social concept and not a scientific one. There are no bright lines to compare all the sequenced genome on the planet’. When we try to apply science to sort out these social differences, it all falls apart (www.enotes.com).

Stephan Palmie’ asserted that race is not a thing but a social relation or in the words of Katya Gibel Mevorach, “a metonym”, “a human invention whose criteria for differentiation are neither universal nor fixed but have always been used to manage difference” (www.familypedia.com). As such, the use of the term “race” must be analysed. Moreover they argue that biology will not explain the reason behind the idea of race.

The ‘Aryan race’ was supposed to be the group of blond haired, blue eyed, white skinned people, whom Hitler wanted to dominate the world. Technically, Aryans are any people who speak one of the Indo-European languages as Greek, Hindi, Polish, German, Gaelic and English. Aryans speaking these languages have neither blond hair nor blue eyes. On the other hand, Jews do not form a race but a religious group like the Buddhists or the Protestants (www.faculty.mdc.edu).

Another popular belief is that although the races have become “adulterated” through miscegenation (marriage and breeding between different races), even now race mixture is an on going process and as a result the races have got admixture. Hybridization (miscegenation) is one of the factors for race formation and at the same time it plays role in extinction or absorption of racial groups. Therefore, there was never a pure race of man and at present also there is no pure race. The concept of so called ‘pure race is based on wrong facts. Again we do not have evidences to say that race mixture produces bad results from the biological point of view.

Racial stereotypes persist largely because the skin colour can be recognised and used to classify people and to attribute certain biological factors to all members of a supposed race. In classifying human races most of the anthropologists do not consider the mental characteristics, viz. IQ. Klinberg has very clearly stated that ‘the scientists know no relation between race and psychology’.

The term ‘race’ has often been used by certain individuals to justify their exploitation of other groups. A blatant example of how racism is linked to inaccurate concepts of race was found in the treatment accorded to American blacks because of a belief in blacks’ inherent (genetic) inferiority to whites. The concept of racial superiority and inferiority is not based on any scientific facts. This racist outlook may be a remnant of slavery days.

Sometimes, few controversies related to cultural traits and a term race also arises. Cultural traits may be acquired by one in his time but not the racial strains. Certain populations of Northeast India have adopted western culture, but not their physical features. Their cultural traits may mislead one; but not their physical feature. However, admixture at the biological level brings changes in the racial types also. Like cultural traits, racial traits are also changeable. But the cultural traits and the term race is not related on any scientific basis.

4.3 FORMATION OF RACES

Race formation is a complex process where several factors are involved. These may be summarized as:

1) **Mutation**

The basic mechanism by which genetic variability is introduced is through mutation. Mutation is a sudden change in genes resulting in hereditary variation. As soon as a new mutant gene appears, it multiplies from one generation to another and becomes a distinctive characteristic of the particular population, provided other conditions are favorable. In this sense mutation is an important process through which races are formed.

2) **Natural selection**

Natural selection is an important factor that operates to pattern and maintain inter and intra specific variability, when applied at the genetic level to the alleles operating at individual loci, as it predicts the behavior of genes under specific conditions. Selection moulds the genotypes of an organism such that they produce phenotypes fitting to the environment in which organism lives. But natural selection does not operate directly on the genotypes; it acts through the phenotypes of the individuals and their gametes. With natural selection advantageous genes are multiplied more rapidly than the disadvantageous genes, as the latter will be eliminated by nature.

3) **Genetic Drift**

Chance fluctuations of gene frequencies may lead to appreciable genetic differences between completely isolated sub-populations. This effect becomes stronger, if the effective breeding size of population is small. There may be lessened variability owing to the random loss of alleles for a predictable proportion of genes. In this process, increase or decrease of the frequency of a gene in a certain population does not depend upon advantageous or disadvantageous conditions of life in a particular locality, but happens merely as an accident or chance. The different frequency of gene for tasting or not tasting PTC in different populations forms a good example of accidental fluctuation of genes.

4) **Migration**

Migration plays an important role in racial differentiation. It helps in isolation, hybridization and mixing of different populations with the migrants. Groups of people migrate from mother population to different directions from the common centre and become isolated from one another and due to endogamy, pressure of natural selection and process of hybridization may cause formation of races.

5) **Isolation**

Isolation may be geographical or social and is considered to be a great race maker. The natural selection and genetic drift, will act effectively only when a particular population is isolated from the neighbouring populations.

On the other hand, people migrated in groups acquire new traits that appear through mutation. Some of the traits being selected by nature become adaptive to particular sets of conditions, thus forming new gene pools. As isolation increases, the possibility of intermarriages among groups' decreases, thus introducing new genes transmitted from generation to generation by the process of heredity resulting in new racial strains.

6) **Hybridization**

Hybridization is a process by which genes within a species are introduced into other populations resulting in genetic combinations which are entirely new. Through hybridization, genetic variation is introduced in a population called as gene flow that leads to the formation of new race. For example, the mingling of Americans and Negroes has produced a new racial population, an ongoing process.

7) **Sexual selection**

It is a process of selecting mates on the basis of some preferred qualities, as a result of which the sexually preferred type would become the dominant variety of the individuals. For example, in a population where blue eye colour was preferred to brown colour, the brown coloured individuals would get lesser and lesser number of mates. Ultimately the gene of brown eye might be eliminated by this process or, the blue-eyed would marry blue eyed and brown-eyed would marry brown-eyed. In such case two distinct types of subgroups would be formed.

8) **Social Selection**

In social selection, breeding is regulated by artificially instituted barriers between socially approved individual and groups within a population, so that mating occurs between individuals preferred by such social standards rather than at random. In such situations strong isolating mechanisms are developed which in due course may produce modifications in a population.

Thus, it may be stated that mutation, natural selection, genetic drift, migration, isolation, hybridization, sexual selection and social selection, etc., are the main processes responsible for the formation of racial strains.

4.4 BASIS OF RACIAL CLASSIFICATION

Racial classification is given to a group of individuals, who share a certain number of anthropological traits, which is necessary such that they are not confused with others. There are two aspects to distinguish people based on phenotypic and genotypic traits.

- 1) **Phenotypic Traits:** Phenotypic traits are those physical characteristics of an individual, which may be examined:

These are of two types:

- Indefinite Physical (Phenotypic) Traits and
- Definite Physical (Phenotypic) Traits

Indefinite Physical (Phenotypic) Traits

Those physical traits which are observable but immeasurable to any measurement are called indefinite physical traits, such as the colour of skin, hair and eyes. Hence they can only be described. Following are some of the indefinite physical traits:

- **Skin Colour:** From the very beginning, anthropologists have used skin colour as one of the most important distinguishing characteristic. Usually, on the basis of skin colour people differentiate between the white, yellow and black races. Recently, Spectrophotometry has been made as the basis of an objective and accurate measurement of the colour of the living human skin. Of the colour of the skin the following distinctions are made:
 - White skinned people or Leucoderms, e.g. Caucasian
 - Yellow skinned people or Xanthoderms, e.g. Mongolian
 - Black skinned people or Melanoderms, e.g., Negroes
- **Hair:** In racial classification, the characteristics of hair, viz., hair form, colour, texture and abundance have been most frequently observed. Besides, cross section and hair whorls have also been used in certain studies. All these hair traits are well defined and classified by anthropologists.
- **Eye:** The characteristics of the eye, particularly the eye opening, eye fold and eye colour have been utilised in distinguishing the racial groups.
- **Nose:** Nose is an integral part of the face and an independent entity whose attributes are comparable. Mainly, the descriptive elements of the nose may be observed and recorded in the following manner:
 - Nasal depression : None, shallow, medium, deep
 - Nasal bridge: Straight, concave, convex, Concave-convex
 - Nasal tip: Sharp, Medium, thick, bulbous
 - Nasal septum: Sloping upward, horizontal and sloping downward.
 - Disposition of the nares: High and narrow, medium broad, broad and flaring.
- **Lips:** In humans, lips bind the oral fissure or the mouth opening. This trait is peculiar in man. It is generally observed that changing moods affects the position of the lips in four different ways: open and shut, foreword and backward, up and down, tense and slack on the basis of thickness of the lips, anthropologists distinguished humans into four groups, viz., thin, medium, thick and very thick lips.
- **Face form:** Human face has distinguishable characteristics, which help us to identify individuals. On the basis of conformation of the face, predominantly the hair line, the form of the jaw and the forehead, the form of the face may be determined. Poch has distinguished ten facial types, viz., elliptic, oval, reversed oval, round, rectangular, quadratic, rhombic, trapezium, inverted trapezium and pentagonal (quoted by Comas, 1960)

- **Ear:** Ears are individually characteristic and have a number of peculiarities in ear forms. The external ear form may be classified into six types, viz., macaques form, cercopithecinae form, Darwinian point, Darwinian tubercle, vestigial Darwinian tubercle and without Darwinian tubercle.
- The ear lobes are one of the most important features of individual characteristic. The ear morphology varies on the basis of ear lobe. The ear lobe is much developed in European and Mongoloids. The attached ear lobe is more primitive feature than the free lobe.

Definite Physical (Phenotypic) Traits

Definite physical traits are those, which can be measured with the help of anthropological methods and instruments. In brief, the following are definite physical traits:

- **Stature:** Different races are distinguished on the basis of differences in stature. Martin has classified stature in the following manner:

Pygmy	Upto	129.0 cms.
Very short	130.0	149.9 cms.
Short	150.0	159.9 cms.
Below medium	160.0	163.9 cms.
Medium	164.0	166.9 cms.
Above Medium	167.0	169.9 cms.
Tall	170.0	179.9 cms.
Very tall	180.0	199.9 cms.
Giant	200.0	and above

- **Head form:** Anthropologists have adopted a method for classifying the head form based on the ratio of the maximum breadth and maximum length expressed as cephalic index. On the basis of cephalic index, head is classified into three classes, i.e., Dolicocephalic, Mesocephalic and Branchycephalic.
- **Nose form:** The nasal index is a good indicator to know the dimension of the nose. It is the proportion of the width of the nose to its length. Broca consider it as the best indicator in racial determination. Human population may be conveniently classified on the basis of nasal index as follows:

– Leptorrhinae upto	70.9
– Mesorrhinae	71 to 84.9
– Chamaerrhinae or Platyrrhine	85 to 99.9
– Ultra Chamaerrhine	100 and above
- **Face form:** The proper evaluation of the face form can be possible with the help of Facial Index. It is an indicator of the proportion of the facial length to its breadth. The human populations may be conveniently classified on the basis of facial index as follows:

- Hypereuryprospic upto 78.9
- Euryprospic 79 to 83.9
- Mesoprospic 84 to 87.9
- Leptoprospic 88 to 92.9

- **Ear form:** On the basis of the ratio between ear length and breadth the ears has been classified into long and narrow in Mongoloid, short and wide in Negroes. The majority belongs to the intermediate type. Few other biometric measurements are also applied in racial classification.
 - **Other definite traits:** There are various anthropometric measurements, which are used in racial classification, viz., bizygomatic breadth, proportion of limbs, chest and thigh circumference, etc.
- 2) **Genotypic Traits:** A new approach to classify human races is based on some genetic traits. The genotypic traits are as follows:
- **Blood Groups:** The Blood groups (ABO, MN, Rh, Lutheran and Kidd blood groups, Duffy Blood Group, P Blood Group and ABH secretor status. etc.) are used in racial classification. There are about a dozen blood group systems known to us, each inherited independently. Their frequencies vary in different populations all over the world; these are used as genetic markers.
 - **Dermatoglyphics:** The dermatoglyphics traits are used in racial classification. Each dermatoglyphic trait is inherited independently or polymorphically. These traits are not modified by environmental factors. In fact, Dermatoglyphics (Derma=skin; Glyphic=Carve) is the study where the ridge patterns on the skin of the fingers, palms, toes and soles are considered. The Dermatoglyphics trait include finger pattern types, Pattern Intensity Index, Pattern size, Palmar main line formula, Configurational area (Thenar interdigital area, Hypothenar area, Second, third, fourth, interdigital areas), Main Line Index, Palmar and finger-ridge counts, atd angle, etc.
 - **Hemoglobin variants:** The hemoglobin within the red cell also has its own variations in different populations of the world. The sickle-cell hemoglobin or hemoglobin S, Hemoglobin C, Hemoglobin D, hemoglobin E, Glucose-6-phosphate dehydrogenase (G-6 PD), Haptoglobins, Transferrins may be used in racial classification.
 - **Some other variants:** The ability to taste phenyl thio-carbamide, colour blindness, sweet glands, etc., are used for the racial classification.
 - **DNA finger prints:** The proper evaluation of racial classification can be possible with help of DNA finger printing. The genome of various populations may be used for such purpose.

4.5 RACIAL CLASSIFICATION

Different ethnologists have classified human races differently. Of these few most important are as follows:

The very first attempt to identify the physical features of some human populations is found in ancient Sanskrit literature. The dark complexion Nishads (Australoids) were distinguished from the yellow coloured Kiratas (Indo-Mongoloids). These two were again different from the light coloured Indo-Aryans.

In 200 B.C., the Chinese distinguished mankind into five groups on the basis of skin colour and Egyptians into four racial types.

Bernier's attempt to classify humans may be considered as the first attempt to classify human race into four groups. In 1921 Bradley made another attempt to systematize the racial types using dichotomous method and distinguished into three racial types, i.e., White (Bearded and Beardless); Negroes (Straight haired and Woolly Haired), Intermediates (Mulattoes).

Linnaeus (1758) introduced binary nomenclature and proposed a systematic classification of human species, Homo Sapiens into six subdivisions, viz., Homo ferus (Savage), Homo Americans, Homo europeans, Homo asiaticus, Homo asser (Negro) and Homo monstrous (abnormal).

In 1775 Blumenbach, a German scientist studied the craniological material and classified mankind into five types: 1) Caucasian, 2) Mongolian, 3) Ethiopian, 4) American, 5) Malayan.

In 1848 Pickering identified eleven human races, viz., Mongolian, Malay-Polynesian, Australian, Papuan, Negrito, Hindu, Nubian, Hottentot, Abyssinian and White.

In 1870 Huxley proposed a classification of mankind including five principle races divided into fourteen secondary races. Later on Haeckel Muller (1879), Topinard (1885) and Quatrefages (1889) further slightly modified Huxley's classification.

Deniker's Classification

In 1889 Deniker proposed a classification and divided mankind into twenty one races depending on hair form and nose form and skin colour as secondary traits. This classification is classic and widely accepted scheme. The brief description of this classification is as follows:

- 1) Woolly Hair, Broad Nose: This group include Bushmen, Negrito, Negro Bantu, Melanesian-Papuan, on the basis of their skin colour they may be further classified into.
 - a) Yellow skinned: They are streatopygous, short statured and dolichocephalic like Bushmen.
 - b) Dark skinned: They may be further classified into three groups:
 - Reddish Brown: They are very short statured, subbrachycephalic or subdolichocephalic like Negrito Negrillo.
 - Black, tall statured, dolichocephalic like Negro Bantu.
 - Brownish black, medium statured, dolichocephalic like Melanesian - Papuan.
- 2) Curly or woolly hair: This group include people with dark skin grouped into three categories:

- i) Reddish Brown, narrow nose, tall statured, dolichocephalic represented by Ethiopians.
 - ii) Chocolate-brown, broad nose, medium stature and dolichocephalic represented by Australians.
 - ii) Brownish Black, broad or narrow nose, short stature, dolichocephalic like Dravidians. In addition to these another group with tawny white skin, narrow hooked nose with thick tip, brachycephalic represented by Assyroids are also included in this group.
- 3) Wavy Brown or black hair and dark eyes: This group of people includes:
- i) Indo-Afghan having brown skin, black hair, narrow nose, which may be straight or convex, tall stature and dolichocephalic.
 - ii) Another group of people have tawny white skin, black hair, tall stature, elongated face represented by Arab or Sinite, Berber, Littoral European, Ibero-Insular and Western European and Adriatic.
- 4) Fair, wavy or straight hair, light eyes, reddish white skin: This group of people includes Northern Europeans and Eastern Europeans.
- 5) Straight or wavy hair, dark black eyes: This group includes Ainu, Polynesians, and Indonesians.
- 6) Straight hair: This group includes diversified people such as South Americans, North Americans, Central Americans, Patagonians, Eskimos, Lapps, Ugrians, Turks and Mongols.

Hooton's Classification

In 1931, American anthropologist, E.A. Hooton has suggested a four fold classification of composite races, which is the result of cross breeding amongst the primary races. In 1947, however, he modified his classification

- 1) **White** (European, Eur-African, caucosoid): This group includes six primary and two composite sub races. The primary sub-races include Mediterranean, Ainu, Keltic, Nordic, Alpine and East Baltic while composite sub races include Armonoid and Dinaric.
- 2) **Negroid**: This group includes African Negro, Nilotic Negro and Negrito (Pygmies) belonging to the primary sub-races.
- 3) **Mongoloid**: This group include Classic and Arctic Mongoloid (Eskimoid), Primary sub-races.
- 4) **Composite Races**: This group further classified into three categories:
 - i) Predominantly White – This group includes Australian, Indo-Dravidian and Polynesians.
 - ii) Predominantly Mongoloid – This group includes American Indian and Indonesian Mongoloid or Indonesian-Malay.
 - iii) Predominantly Negroid – This group includes Melanesian Papuan or Oceanic Negroids, Bushmen - Hottentot and Tasmanians.

Hooton's classification has been criticized for the inclusion of Negrito or Pygmy element into the formation of Indo-Dravidians, Tasmanians, Bushman and Indonesians inclusion of Archaic types, viz., Tasmanians and Bushman as hybrid group and the origin of Dinaric and Armenoid sub-race.

Coon, Garn and Birdsell's classification

In 1950, Coon, Garn and Birdsell set up six putative stocks. In fact, they realised that the existence of three major races (Negroid, Mongoloid, and Caucosoid) is proposed by the most anthropologists. However, some preferred to add the Australoid as a separate group and felt that American Indians and Polynessias should thus be the other group. On a detailed consideration the three investigations preferred to have a "functional classification" and while doing so they considered the following anthropological observations:

- 1) Differences in tooth and jaw size, skull thickness, brow-ridge size and other archaic features.
- 2) Body built as adaptation to environment.
- 3) Special surface features like skin colour, flatness of face, hair distribution, etc., which are adaptations to heat, light and cold.

On the above basis, Coon, Garn and Birdsell were able to distinguish 30 racial types. Though in terms of methodology, this attempt was certainly a positive advance but a determination of primitive or adaptive nature of particular feature was not easy, which give rise to criticism.

Ottenberg's classification

Ottenberg's was the first scientist to attempt racial classification based on blood group, ABO system. In 1925, he classified mankind into six groups, viz., Europeans, Intermediate, Hunan, Hindu, Manchu, Afro-Malaysian and Pacific-American. Later Snyder (1926) proposed a new classification with seven groups, viz., European, Intermediate Hunan, Hindu-Mancho, Afro-Malaysian, Pacific American and Australian.

Wiener's classification

Wiener (1946 and 1948) proposed another classification on the basis of ABO blood groups, MN Blood type and Rh blood factor into six groups, viz. Caucasoid, Negroid, Mongoloid, Asiatic sub group, Pacific Island and Australian, Amerindians and Eskimos.

Boyd's Classification

In 1958, Boyd modified Wiener's classification and proposed six groups comprising thirteen races as follows:

- i) **European Group** - (1) Early European (2) Lapps (3) North-west Europeans, (4) Eastern and Central Europeans, and (5) Mediterraneans.
- ii) **African Group** - (6) The African races, excluding inhabitants of North Africa, which belong to European group.
- iii) **Asian Group** - (7) The Asian races (8) Indo-Dravidian.
- iv) **American Group** - (9) American Indians

v) **Pacific Group** - (10) Indonesian race, (11) Melanesian race and (12) Polynesian race

vi) **Australian Group** - (13) Australian aborigines.

Ashley Montagu Classification

In 1951, Ashley Montagu proposed a classification, which was accepted by many anthropologists. He used skin colour, hair form and head form. He classified mankind into three main groups, viz. 1) Negroid 2) Mongoloid and 3) Caucasoid.

He further pointed out that another division which is larger than an ethnic group may be distinguished as Australoid, who is in fact archaic.

The physical characteristics of the three major races are as follows:

S.No.	Characters	Caucasoid	Negroid	Mongoloid
1.	Skin Colour	Light reddish white to olive brown. Some are brown	Brown to Brown Black. Some are yellow-brown	Light yellow to yellow brown. Some are reddish Brown.
2.	Head Hair	Light blond to dark brown in colour, fine to medium in texture, straight to wavy in form	Brown-Black in colour, coarse in texture, curly to frizzly or woolly in form	Brown to brown black in colour, coarse in texture, straight in form
3.	Head form	Dolichocephalic to brachycephalic, Height is medium to very high	P r e d o m i n a n t l y dolichocephalic, Height is low to medium	Predominantly brachycephalic height is medium
4.	Body Hair quantity	Moderate to profuse	Slight	Sparsely distributed
5.	Face	Narrow to medium broad	Medium broad to narrow. Prognathism is very often present	Medium broad to very broad. Cheek bones are high and flat
6.	Eye	Colour is light blue to dark brown	Brown to brown black	Brown to dark brown. Mongoloid eye fold is very often present
7.	Nose	Leptorrhine to mesorrhine, usually bridge is high	Platyrrhine, usually bridge is low	Mesorrhine to platyrrhine, usually bridge is low to medium
8.	Chin	Usually projecting	Slight	Medium
9.	Lips	Very thin to medium, small aversion	Thick, much aversion	Medium thickness with aversion of membranous often heavy integumented lips
10.	Stature	Medium to tall	Very short to tall	Medium to short
11.	ABO Blood Group	Relatively high incidence of A2	Relatively high incidence of A2, comparatively high incidence of B	High incidence of A1, very low frequency of A2

12.	Rh. Factor	Highest frequency of Rh negative	Moderate frequency of Rh negative	Rh negative is rare
13.	Dermatoglyphics pattern intensity	Low	Great dispersion ranging from higher to lowest	High
	Main Line Formula	11.9.7	7.5.5	9.7.5
	Main line	Marked transversally type-ii of D line termination quite frequent	Longitudinal alignment	Longitudinal alignment

4.6 UNESCO STATEMENT ON RACIAL CLASSIFICATION

The definitions related to race strike a note of discord and there is no opinion expressed in them. Experiencing this difficulty UNESCO organised a conference of all the prominent and eminent anthropologists, sociologists and psychologists in order to determine a single conception of race. The conference proposed the following recommendations related to race:

Fundamentally, the entire human species has one origin and all men are Homo sapiens.

National, religious, geographical, cultural and linguistic groups are entirely unconnected with and unrelated to race. These groups do not give indication of any race. Distinctions can be made between different races on the basis of differences in physical features but not on the basis of cultural characteristics.

The differences that exist between the physical characteristics of men are due both to heredity and to environment. Differences in heredity arise due to the processes known as mutation and inbreeding.

Some race may claim of purity but this not true. Today pure races cannot be found anywhere in the world. The process of mixing of races originated long back.

Human races can be classified but these classifications are based solely on physical traits. They have no relation of any kind with mental or intellectual superiority or inferiority.

The inner capacity for the development of mind and culture is found equally in every race. Hence distinction between races cannot be based on cultural differences and levels of intelligence.

It is possible that in one nation the degree of racial difference may be greater while in another nation lesser degree.

Evidence in support of the fact that the race has no important effect in the social and cultural differences between various human groups has been found in

historical and sociological studies – By no stretch of imagination can one conceive of any relation between changes in racial form and social changes.

That from the biological view point, mixing of races in deleterious, is an essentially incorrect and invalid belief.

In this way, the race is a group of intermarrying individuals, born to common ancestors that possess similar physical traits and a 'we feeling'. Inbreeding renders permanent the physical characteristics of the race and due to them one race can be distinguished from another. One major cause of inbreeding is geographical isolation. Beside geographical isolation a race originates due to mutation, migration, selection and adaptation.

4.7 SUMMARY

To sum up that the word 'race' is applied for human classification on the basis of biological characteristics. Race is genetically divergent among human populations, which is marked by common phenotypes. In other words, race refers to those human groups, which exhibit heritable physical differences from other human populations. Race formation is a complex process where more factors, viz. mutation, natural selection, genetic drift, migration, isolation, hybridization, sexual selection and social selection are involved. The basis of racial classification is various phenotypic traits, viz. anthropometric measurements, somatoscopic observations, etc., and genotypic traits viz. blood groups, dermatoglyphics, hemoglobin variants as well as DNA finger prints.

The various ethnologists have classified human races differently and out of these Deniker's classification, Hutton's classification, Coon, Garn and Birdsel's classification, Ottenberg's classification, Wiener's classification, Boyd's classification and Ashley Montagu classifications are most important. The physical characteristics of the three major races (Caucasoid, Negroid and Mongoloid) vary in respect of skin colour, hair form, head form, face, eye, nose, lips, stature, blood group and dermatoglyphic features.

The UNESCO statement on racial classification stated that fundamentally, the entire human species has one origin and all men are *Homo sapiens*. The national groups, religious groups, geographical, cultural and linguistic groups are unrelated to race. The variation found to exist between the physical characteristics of men has both the features, i.e. heredity and environment. In short, it may be stated that race is a group of intermarrying individuals, who are born of common ancestors, possess' similar physical characteristics and primarily heritable physical differences from other human populations.

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Sample Questions

- 1) Define race and discuss controversy related to term race.
- 2) Discuss the factors responsible for race formation.
- 3) Describe the basis of racial classification.
- 4) Discuss the Danikar's/Hotton's/Coon/ Garn and Birdsell's racial classification.
- 5) Discuss the UNESCO statement on racial classification.