

KEY TO THE ENTRANCE EXAMINATION IN ANTHROPOLOGY

Entrance Examination held on 14 June 2014 (from 10.00 a.m. to 1.00 p.m.)

S.No.	Answer	S.No.	Answer
1	a	26	D
2	c	27	a
3	c	28	c
4	a	29	b
5	b	30	a
6	a	31	d
7	c	32	c
8	d	33	a
9	a	34	a
10	a	35	c
11	a	36	d
12	a	37	b
13	b	38	c
14	b	39	d
15	d	40	b
16	c	41	b
17	a	42	a
18	c	43	b
19	b	44	a
20	b	45	a
21	a	46	b
22	a	47	c
23	c	48	a
24	a	49	b
25	a	50	b

51. Describe briefly Hardy-Weinberg Equilibrium.

- A principal that describes that the genotype and allele frequencies in a non-evolving population is expected to remain the same from generation to generation, if certain conditions are met with.
- The equilibrium is achieved if: i) the population is large; ii) the population is *isolated* from other populations; iii) there is no mutation;

- iv) individuals are mating randomly; and 5) there is no occurrence of natural selection.
- c. In such conditions, every individual has an equal chance of survival.

52. What is scientific study? Illustrate with an example of the scientific method as applied in Anthropology?

- a. It is a system of acquiring knowledge through study or practice by using observation, theory and experimentation to describe and explain natural phenomena.
- b. Anthropologists are trained in the scientific method of enquiry. Fieldwork is the hallmark of anthropology where fresh knowledge is obtained by collecting first-hand observation and information about different cultures and populations.
- c. Anthropological study involves scientific methods such as observation, formulation of questions and hypotheses, collection of data, experimentation, logical analyses and deduction of inferences, and comparison of cultural and biological variables within and between populations.

53. Are humans still evolving?

- a. Human beings are still evolving. Microevolutions within populations are continuously changing the gene frequencies.
- b. Variations in reproductive success still exist among humans, and therefore some traits, related to fertility, continue to be shaped by natural selection.
- c. Our ancestors had much bigger jaws with prominent third molar for chewing but some scientists argue that the wisdom teeth are slowly disappearing.

54. Briefly describe human genome project?

- a. It is an international, collaborative research program for complete mapping and understanding of the entire human genes.
- b. The project was formally launched in 1998 and declared complete in 2003. It involved techniques like Electrophoresis, RFLP, PCR and DNA Sequencing.
- c. Its main goal is to determine the sequence of all the bases of the human DNA making up the genome. The mappings show the locations of genes

for major sections of all the human chromosomes. The Human Genome Project has revealed that there are probably about 20,500 human genes.

55. What is Mutation Theory? Briefly explain.

- a. The mutation theory was proposed by a Dutch botanist, Hugo de Vries in 1901. He observed that there are spontaneous inheritable changes which suddenly occur in naturally reproducing population.
- b. The key concept of Mutation Theory is that “A new characteristic in an organism may suddenly evolve spontaneously without passing through an intermediate form and becomes permanent”.
- c. According to de Vries, mutations are large and sudden. It is subject to natural selection and can be either progressive, producing new hereditary properties or regressive resulting loss of existing properties.

56. Discuss the salient features of Lamarckism and Neo-Lamarckism?

- a. Lamarckism is an original theory proposed by Lamarck on the inheritance of all acquired characters whereas Neo-Lamarckism is a modified Lamarckian theory as expounded by later biologists who hold that only some acquired characters can be inherited depending on natural selection.
- b. Lamarckism says that internal forces, changes in environmental factors and use and disuse of organs are responsible for evolution while Neo-Lamarckism argues that only the changes in environmental factors influence evolutionary process.
- c. Lamarck did not make a distinction between somatic cells and germs cells and thought that all acquired characters in individual's own life span are heritable, but Neo-Lamarckian believes that only germinal variations are inherited.

57. Differentiate between association and institution.

Associations are voluntary organizations within society which are interest centered and formed for the pursuits of specific interest. They are seen by the members as a mean to an end. For example, club, caste associations, etc. Institutions are defined as the standardized modes of co-activity characterized by perseverance and purposive nature. They are also seen as

recognized and established usages governing the relationships between the individual and the group. Bronislaw Malinowski refers to them as the units of organized human activity. Examples: marriage, religion, kinship, etc.

58. Discuss the formalist approach towards the study of economic institution.

Formalist approach defines economy as rational, guided by choice between scarce resources calculated in terms of means and ends, profits and losses. Used by economist to the study of economic institution in complex societies, where economy is isolated from all aspects of social life and guided by economic principles. In contrast, Karl Polanyi proposed the substantivist approach to study the economic institutions in traditional societies where the economy is embedded in other social aspects of life and cannot be understood through the formalist approach.

59. Peasants are ‘part-society with part-culture’. Explain.

According to A.L. Kroeber, peasants are a societal type best defined as part-societies with part-cultures, due to their close linkage with civilization. They are definitely rural yet live in relation to the market town; and form a class segment of a large population, which usually contains an urban center. Their culture and society can only be explained and understood with reference to the civilization of which they are a part.

60. What is tribal development?

Tribes constitute nearly 8.2 % of the total Indian population and live as a group in compact areas and follow a community way of living, in harmony with nature. They have uniqueness of culture, distinctive customs, traditions and beliefs which are simple, direct and non-acquisitive by nature. In term of development, tribes represent the most underdeveloped section of Indian population with many of the benefits of modern science and development yet to reach them. The challenge of tribal development is how to reach the positive gains of modern science and technology without disrupting their traditional culture and identity. The Government of India has followed a policy of the gradual integration of tribes in the mainstream of the

population in their own term through a process of sustainable strategy of development.

61. Explain the alliance theory as an approach to the study of kinship systems.

Alliance theory was proposed as an alternative to the descent theory for the study of kinship systems in the communities of South Asia, Australian Aborigines and American Indians, where marriage alliances form more enduring pattern rather than descent in constituting the social structure. The approach was pioneered by Claude Lévi-Strauss and is associated with the work of Louis Dumont, Edmund Leach and Rodney Needham, and stresses marriage as a structural principle.

62. Discuss the religious and cultural goals of the four stages of life as enunciated in the Ashrama system.

The system of age based classification of individual life in four different stages as propounded in the classical Manu Smriti, the classical Sanskrit text. The stages are Brahmacharya (student life), Grihastha (householder life), Vanaprastha (retired life) and Sannyasa (renouncer life). Brahmacharya stage is defined by the learning of *dharma*, Grihastha by taking up responsibilities, Vanaprastha, by sharing of wisdom and gradual withdrawal, and Sannyasa by pursuit of *moksha*.

63. Where is Bhimbhetka and what it is known for?

1. It is a stone age rock art site in Raisen district of Madhya Pradesh, nearly 45 kilometers from Bhopal on Bhopal-Hoshingabad highway.
2. Some of the rock paintings here are nearly 30,000 years old.
3. It belongs to Mesolithic Culture.
4. It is a UNESCO heritage site.
5. Cup marks and different type of animal motifs have been depicted.

64. What is C 14 dating?

1. It is a radiometric dating technique that uses the decay of carbon-14 to estimate the age of organic material, such as wood and leather, up to about 58,000 to 62,000 years before present.
2. Absolute dating.
3. Use only for any organic materials.
4. Half life is around 5700 years.

65. What are the characteristics of the Oldowan Culture?

1. The term Oldowan is taken from the Olduvai George in Tanzania.
2. Dominated by chopper and chopping tools made on pebble.
3. Its time period is from 2.6 million to 1.7 million years ago.
4. Homo *habilis* fossil has been found.

PART C

Answer any *one* of the following questions (in not more than 250 words)

66 (1) As a modern physical anthropologist, describe the areas of collaboration which you can initiate with various other disciplines.

- a. Physical anthropology studies the biological characteristics of human beings, particularly their evolution, variation and classification through quantitative methods and comparative analysis.
- b. Modern physical anthropologists have shifted their interest from mere classification to applied sciences, such as nutritional anthropology, forensic anthropology, kinanthropometry, ergonomics, eugenics and public health. There is immense scope of collaboration with numerous scientific disciplines and research centres worldwide such as:
 - (i) National and international institutes for forensic science and criminology;
 - (ii) International *primatological* conservation research *projects*;
 - (iii) National institute of nutrition and *international* societies of *nutritional* sciences;

- (iv) National and international human genome sequencing consortium and intercontinental human genome projects;
 - (v) National and international *Population Council* for conducting bio-medical, social science, and public health research.
- c. Kinanthropometry deals with the physical growth and body dimensions in relation to sports activities and physical anthropologists can be involved in numerous national and international Injury Prevention and Sports Performance (IPSP) projects.
- d. Ergonomics studies human beings in relation to their working environment. It involves designing of equipment, furniture, garments, etc., which extensively use anthropometric techniques. Physical anthropologists can collaborate with upcoming fields, like Anthro-Tech, which uses anthropological, metrical and ethnographic techniques in technological fields.
- e. Ecological anthropology deals with the relationship between human beings and their environment. Physical anthropologists can contribute to *Ecological* Restoration and Management programmes, both at national and international levels.
- f. Other interesting areas of physical anthropology include Human Genetics, Physiological Anthropology and Demography, which can have wide-ranging collaboration with medical sciences and public health.

66 (2) What is structuralism?

- Refers to the theoretical perspective which gives primacy to pattern over substance. For structuralists, meaning comes through knowing how things fit together, not understanding things in isolation.
- The approach is mainly attributed to the work of Claude Lévi-Strauss, the ultimate logician of culture. Heavily influenced by Émile Durkheim and Marcel Mauss and the so called Prague school of structural linguistic like Jakobson and Trubetzkoy.
- Lévi-Strauss's concept of culture challenges the empirical positivistic understanding to a more structural understanding. Rather than focusing on empirical, observable behaviour (structural behaviour, surface structure), the structuralist examines the underlying principles and variables that presumably generates behaviour.
- These principles characteristically take the form of oppositions: male versus female, nature versus culture. Or, the logical relationships such as

available residential options. Or, allude to deep human contradictions such as incest versus exogamy.

- The approach gives primacy of unconscious over conscious, etic over emic synchrony over diachronic, transformational analysis, linguistic analogy and emphasis on cognitive aspects, like belief, myths and thoughts.
- The approach had a profound effect on American anthropology. It influenced symbolic anthropology and post-modernism.

66 (3) Discuss the salient features of the Neolithic culture of India?

1. Starts around 6000 B.P.
2. Agriculture starts.
3. Grinding and polishing technique.
4. Celts are the important tool types.
5. Important sites: Burzahom, Lahura deva, Kuchai, Chirand, Mahadaha.

67 (1) Describe the significance of major findings of *Homo erectus* in Asia.

- a. *Homo erectus* is arguably the earliest species in the human lineage to have so many human-like qualities. They are considered to be the first *Homo erectus* species to have expanded beyond Africa.
- b. The earliest appearance of *H. erectus* was reported from localities in the Lake Turkana Basin, Kenya, sometimes around two million years ago and lived until near the end of the pleistocene, as evidenced by fossils from Southeast Asia.
- c. The discovery of Ngandong fossils from Java, Indonesia and Zhoukoudian fossils from Peking, China at the close of the 19th and early 20th centuries comprise the classic examples of the species *Homo erectus* in Asia.
- d. The Java man, a member of the human lineage was discovered by Eugene Dubois in the early 1890s. Java man was characterized by a cranial capacity averaging 900 cubic cm, flat skull, small forehead, heavy brow ridges and powerful jaw muscles. The teeth are essentially human but the canines were apelike. The femur resembled that of the

modern man indicating that the Java man had upright posture and walked fully erect.

- e. The Peking man was identified as another member of the human lineage by Davidson Black in 1927. They had a cranial capacity averaging about 1,000 cubic cm, a small forehead, heavy brow ridges, an occipital torus and powerful jaw muscles. The teeth are essentially modern, though the canines and molars are quite large. The limb bones are indistinguishable from those of modern humans.
- f. The significance of Asian findings is that the fossils were dated 70,000 to 40,000 years ago which is very late for *Homo erectus* species and could have co-existed with *Homo sapiens*.

68 (2) Discuss the distinctive features of an anthropological enquiry.

- Empirical, fieldwork based, holistic and cross-cultural understanding.
- Cultural relativism over ethno-centricism.
- Emphasis on participant ethnographic understanding looking at the imponderabilia of everyday life.
- Thick rather than thin description.
- Polyvocality.
- Self-reflective.
- Critical understanding.
- Objective interpretation of social relationship.
- Emic over etic analysis.

67 (3) Discuss the chief characteristics of Mesolithic culture of India.

- a. Starts around 10,000 B.P.
- b. Use bow and arrow.
- c. Microlithic - geometric and non-geometric tools.
- d. Rock painting.
- e. Important sites: Langhnaj, Bagor, Sarai Nahar Rai, Birbhanpur, Teri.