

**Model Answers\_AS-2959(A)**  
**B.A/ BSc. Third Semester**  
**End Semester Examination, 2013**  
**ANTHROPOLOGY**

**Paper: First (Introduction to Prehistoric Archaeology)**

**Section – ‘A’**

**1.5x10=15**

**Note:** *Select one of the most appropriate answer from the following objective questions.  
Each question carries 1.5 mark.*

- 1.(i) Indus valley civilization is studied under
- a. **Protohistoric archeology**
  - b. Classical archeology
  - c. Pre-historic archeology
  - d. None of the above
- (ii) Civilization of Greece and Rome is studied under
- a. Protohistoric archeology
  - b. **Classical archeology**
  - c. Pre-historic archeology
  - d. None of the above
- (iii) 99% of human history is covered by
- a. Protohistoric archeology
  - b. Classical archeology
  - c. **Pre-historic archaeology**
  - d. None of the above
- (iv) Pleistocene age is also known as
- a. Summer age
  - b. **Ice age**
  - c. Wind age
  - d. None of the above
- (v) Whole Paleolithic occurs during which epoch-
- a. Holocene
  - b. **Pleistocene**
  - c. Palaeocene
  - d. Miocene
- (vi) Who first discovered the stone tools from Sohan Valley
- a. Tanner
  - b. **D.N. Wadia**
  - c. Hooton
  - d. None of the above
- (vii) Which one is the correct sequence of geological epoch?
- a. **Meiocene-pliocene-pleistocene-holocene**
  - b. Pliocene-pleistocene-holocene-miocene
  - c. Pleistocene-holocene-miocene-pliocene

d. Holocene-meiocene-pliocene-pleistocene

(viii) Who first discover microliths?

- a. D.N. Wadia
- b. Carlyle**
- c. Hooton
- d. De-Terra & Paterson

(ix) Who wrote the book ‘Up from the ape’?

- a. Hooton**
- b. D.N. Wadia
- c. Carlyle
- d. De-Terra & Paterson

(x) The oldest and the simplest relative dating method

- a. Stratigraphic method**
- b. Carbon 14 method
- c. Potassium argon method
- d. Uranium method

#### Section-‘B

4x7.5=30

**Note:** Write long answer of the following questions. Attempt any **four** questions.  
Each question carries 7.5 marks.

2. Write down the objectives and relation of archaeology with other discipline.

**Answer2:**

**Introduction:**

The word “Archaeology” is derived from Greek ‘archaios’ meaning “ancient” and ‘logos’ meaning “knowledge”, it has been therefore variously defined as “the study of antiquity, the science of ancient things”. Archaeology is the study of human activity in the past, primarily through the recovery and analysis of the material culture and environmental data that they have left behind, which includes artifacts, architecture, biofacts and cultural landscapes (the archaeological record). Because archaeology employs a wide range of different procedures, it can be considered to be both a science and humanity.

Archaeology studies human prehistory and history from the development of the first stone tools in eastern Africa 3.4 million years ago up until recent decades. It is of most important for learning about prehistoric societies, when there are no written records for historians to study, making up over 99% of total human history, from the Palaeolithic until the advent of literacy in

any given society. Archaeology has various goals, which range from studying human evolution to cultural evolution and understanding culture history.

**Objectives:**

1. The purpose of archaeology is to learn more about past societies and the development of the human race.
2. Archaeology is the reconstruction of the history of man, from time to time.
3. Archaeology studies not only man but history of past or ancient climate, astronomy, geography such as rise and fall of sea beaches, land bridges between continents, the formation and disappearance of deserts, changes in river beds.
4. Archaeology studies the art of making pottery to understand the material culture of the existing period, spinning, weaving, clothing materials, houses and materials for house-making, nature of habitation, density of population and communications.
5. Archaeology also sheds light on many of humanity's technological advances, for instance the ability to use fire, the development of stone tools, the discovery of metallurgy, the beginnings of religion and the creation of agriculture.
6. However, it is not only prehistoric, pre-literate cultures that can be studied using archaeology but historic, literate cultures as well, through the sub-discipline of historical archaeology.

**Relationship of Archaeology with other disciplines:**

Archaeology is related with many disciplines depending on the scope of the subject.

**Brief explanation should be mentioned with each related discipline:**

1. Archaeology and Anthropology
2. Archaeology and History
3. Archaeology and Geography
4. Archaeology and Geology
5. Archaeology and Chemistry
6. Archaeology and Physics etc.

3. Write short note on

a. Underwater archaeology

b. Typology

**Answer 3a:**

## **Underwater archaeology**

### **On the basis of Nature of Work**

Archaeology has been categorized into various types on the basis of nature of the work involved in the process of data collection and analysis. This depends to a large extent on where an excavation or an exploration is taking place, and with what point of view an archaeologist wants to interpret history.

Franck Goddio and his team managed to reveal the supposed lost palace of Cleopatra, which was believed to be submerged under the sea some 1600 years ago. This excavation was carried out off the shores of the city of Alexandria in Egypt. It is associated with the study of underwater evidences such as shipwrecks, water-buried cities, and other inundated archaeological sites. Knowledge of specific techniques and methods that need to be adopted in order to carry out excavations underwater is a prerequisite. Archaeologists practicing in this field attempt to discover submerged evidences by diving into the deep waters along with sophisticated archaeological tools.

### **Answer 3b:**

#### **Typology Introduction**

Archaeological investigations have no meaning unless the chronological sequence of the events is reconstructed faithfully. The real meaning of history is to trace the developments in various fields of the human past. Towards this end, while investigating the past cultures, archaeology depends on various dating methods. These dating methods can broadly be divided into two categories, i.e.

1. Relative dating methods and
2. Absolute dating methods.

#### **1. Relative Dating Method**

This dating method is also known as “Archaeological Dating” or “Historical Chronology”. These are mainly non-scientific dating methods. These methods were relied on especially prior to the introduction of scientific methods of dating. But, even when the scientific methods of absolute dating are available, this method of dating has not lost its importance, as many a time we have to depend solely on relative dating. Even when the absolute dates are

available, we have to supplement the information with relative dating. Typology is one of the relative dating methods.

### **Typology and Dating**

Pottery is probably the most abundantly available antique material in any archaeological site. The types and forms or shape of these pots and also the antiquities undergo evolutionary changes in course of time, and thus contribute towards our knowledge of the chronological assignments. It is based on the simple fact that industrial and art forms and for that matter all objects are subject to evolutionary process.

Typological evolution may take either the form of improvement or the form of devolution or degeneration. Working out these changes brought in during the evolutionary process helps us in fixing chronological slots for different shapes. Examples may be cited from Greek archaeology where even the shapes of the pots have been appropriately and approximately dated. Similarly the forms of the pots of the Maya culture and the shapes and decorations on the Chinese potteries have been so adequately dated that their relative dating value is immense. But in India though the variety of wares are satisfactorily dated the typological evolution is yet to be worked out.

4. What is classical archaeology? Write down the relation of archaeology with palaeontology

#### **Answer 4:**

Archaeology involves reconstructing history with the help of material remains. It is a stimulating job of interpreting material culture in human terms. It is thus a subject having a multidisciplinary approach, that include history, anthropology, and other social and general sciences wherein every small thing matters.

1. On the basis of historic time period

- a. Prehistoric Archaeology
- b. Protohistoric Archaeology
- c. Historical Archaeology
- d. Ethnoarchaeology
- d. Classical Archaeology
- e. Medieval and Modern Archaeology

## **Classical Archaeology**

It is an aspect of historic archaeology and deals primarily with the ancient civilizations and empires of Europe and the Middle East, including Egypt, Greece, Roman and Persia, Axum, etc. World-famous classical archaeological sites include Parthenon, Greece; Knossos, Crete Islands; and Troy, northwest of Turkey. Classical archaeology not only studies these two civilizations individually, but also in relation to other contemporary civilizations of that period. It also studies the influences of and on other civilizations of the ancient Greeks and Romans. It is a very interesting field of study, because it pertains to specific regions, is limited in scope.

## **Relationship of Archaeology with Palaeontology**

5. What is river terrace? What are the different types of river terrace?

### **Answer 5:**

River terraces can be formed in many ways and in several geologic and environmental settings. By studying the size, shape, and age of terraces, one can determine the geologic processes that formed them. When terraces have the same age and shape over a region, it is often indicative that a large-scale geologic or environmental mechanism is responsible. Tectonic uplift and climate change are viewed as dominant mechanisms that can shape the earth's surface through erosion. River terraces can be influenced by one or both of these forcing mechanisms and therefore can be used to study variation in tectonics, climate, and erosion, and how these processes interact.

River terraces are topographic platform, benches or steps in the river valley that represent former levels of valley floors and flood plains. Throughout much of the world, beach lines and river terraces were formed during the glacial period. At present they lie above the sea level or river flood plain. Major streams flowing down from the glacial-melt towards the sea made the terraces along the valley sides. This is for the changes in the volume of water in a stream. In colder phases, i.e. during the periods of maximum glaciation, the rivers ran slowly with less force. So silt was deposited along the border. Later, during inter-glacial phases, as glaciers melted rapidly, the huge water-flow eroded the banks. More force was applied as volume of water increased. Therefore, silt was alternatively deposited and cut out by new erosion and the terraces as the remains of old flood plains were left behind.

**For example:** Terrace formation has been extensively studied in Europe both in the Atlantic and Mediterranean areas. Along the East coast of North America from New Jersey to Florida, Seven coast terraces have been found which can be correlated with glacial stages. The highest beach is now about 265 feet above the sea level. In the eastern and southern parts of England raised beaches of Pleistocene are found. The river Thames in England shows a series of terraces.

Evidences of human occupation have been often identified along these beaches or terraces. Not only the stone artifacts, fossil remains and other domestic articles are found to be preserved in older terraces. In India, river terraces exhibiting major human activities include Soan, Mayurbanj and Narmada valley.

### **Types of river terraces**

1. Long-lived river (fluvial) systems :

These can produce a series of terrace surfaces over the course of their geologic lifetime. When rivers flood, sediment deposits in sheets across the floodplain and build up over time.

2. River Erosion:

Later, during a time of river erosion, this sediment is cut into, or incised, by the river and flushed downstream. The previous floodplain is therefore abandoned and becomes a river terrace. A river terrace is composed of an abandoned surface, or tread, and the incised surface, or riser.

### **Two types of processes are involved**

1. Filling

2. Incision

To get an estimate of the age of abandonment of that surface, and the age of incision. A simple calculation of  $h_1/t_1$  can give the average rate of incision ( $r_i$ ),

where  $h_i$  = height of river terrace from river and

$t_i$  = age of surface

It is important to note that these rates of incision assume a constant rate of incision over the entire height and time.

### **Time of incision versus time of aggradation**

The ages of incision and flooding (aggradation) can have different interpretations for each fluvial system, where each region may respond independently to external variation. Many variables control the behavior of the river and whether it erodes or floods. Changes in the steepness of the stream gradient, the amount of sediment contained in the river, and the total amount of water flowing through the system, all influence how a river behaves. There is a delicate

equilibrium that controls a river system, which, when disturbed, causes flooding and incising events to occur and produce terracing.

Dating of these abandoned terrace surfaces (treads) is possible using a variety of geochronologic techniques. The type of technique used, however, is dependent on the composition and age of the terraces. Currently used techniques are magnetostratigraphy, low temperature thermochronology, cosmogenic nuclides, radiocarbon, thermoluminescence, optical stimulation thermoluminescence, and U-Th disequilibria. Additionally, if there is a succession of preserved fossils, biostratigraphy can be used.

6. Write short note on

- a. Relationship of Archaeology with Social-cultural Anthropology
- b. Aerial archaeology

**Answer 6a:**

### **Relationship of Archaeology with Social-cultural Anthropology**

Archaeologists study human cultures and behavior through material remains. The largest number of archaeologists is interested in past cultures, these include prehistoric archaeologists, who study cultures that precede any written records, and historical archaeologists, who study cultures for which there are written records. Another group, classical archaeologists, study the civilizations of the Mediterranean area. However, anthropological and classical archaeologists share many methods and approaches to research. Recently, some anthropological archaeologists have applied archaeological methods to the study of modern societies. Like all anthropologists, archaeologists are interested in how people live their daily lives, how people understand the world around them, how they adapt to the surrounding environment, and how and why cultures change. For most of the thousands of years of past human cultures, the only way we can learn about these things is from the material remains that people left behind.

Although archaeological data often are incomplete and fragmented, they are critical to our understanding of the development of human cultures and to expanding our comparative understanding of human cultures from all times and all places. In order to avoid ethnocentric generalizations about 'human nature' it is very useful to have information about past human cultures as well as living ones.



Archaeology is one part of anthropology that spans the natural sciences, social sciences, and humanities, because archaeologists share research techniques with geologists, biologists, chemists, historians, economists, and cultural anthropologists.

**Answer 6b:**

**Aerial Archaeology**

On the basis of Nature of Work

Archaeology has been categorized into various types on the basis of nature of the work involved in the process of data collection and analysis. This depends to a large extent on where an excavation or an exploration is taking place, and with what point of view an archaeologist wants to interpret history.

In January 2010, The Guardian reported a discovery of a pre-Columbian civilization called El Dorado made during the aerial exploration of the Amazon rainforest. It was the result of the methods of aerial archaeology, without which, the vestiges of such an advanced civilization contemporary to the Aztecs and the Incas would have vanished. It gained importance after aerial survey and photography were considered to be important. Doing aerial surveys help archaeologists to spot new sites, which otherwise would have been a difficult task. Aerial archaeology involves detailed exploration from an altitude, so that newer sites can be discovered, and the sites which already exist can be recorded from a different perspective. Nowadays, the technique of satellite imagery also forms part of aerial archaeology.

7. What is a Pleistocene epoch? Write in details about the three Pleistocene epochs.

**Answer 7:**

Pleistocene is known as the age of man. Pleisto' means most and Koinos' means new. This term is first used by Charles Lyell, a geologist. This period is characterized by drastic changes in the environment. The homogenous warm climatic conditions characteristics of pre-Pleistocene epoch were no more seen in Pleistocene epoch. Pleistocene epoch was marked by Arctic ice region, temperate Europe and warmth Africa. In this period, the climatic change from warmth to cold and cold to warmth were noticed. Due to this climatic variations, it is known as Great Ice-age. The planet earth has a long history of 4.6 billion years or 480 crore years.

Throughout this long period the conditions on its face are not stable and same. There occurred great changes in different periods of its past. Earth's history is divided mainly into four main periods, i.e. Pre-cambrian, Palaeozoic, Mesozoic, Cenozoic, with several subdivisions in them. The recent period Cenozoic is again sub-divided into Tertiary and Quaternary.

For study of human past Quaternary period is important as it corresponds to human evolution and its various cultural periods. Quaternary is sub-divided into Pleistocene and Holocene (Recent) starting 10,000 years ago) periods.

Pleistocene period commenced some 30 lakh years ago. The Pleistocene period corresponds to the long history of palaeolithic culture. The conditions during the Pleistocene period are not uniform and there occurred several drastic changes during this period. In general pleistocene period was a cold period, during which large areas of earth were covered by thick sheets of ice, and hence this period is called "ice age". In fact there were not one, but four ice ages during the Pleistocene period. They are Gunz (600,000), Mindel (400,000), Riss (200,000), and Wurm (100,000).

**Note: Write the Pleistocene boundaries**

1. Pliocene-Pleistocene boundary
2. Pleistocene-Holocene boundary
3. Pleistocene Period and its stratigraphy