1. Define Archaeological Anthropology? Briefly comment on its main divisions.

**Ans:** Archaeological anthropology has been derived from the broad field of Archaeology (archaio means ancient and logia means study) which is concerned with the study of the extinct cultures. Man, the central figure of anthropology existed long before the development of written record. Therefore, archaeology is able to supplement anthropology by recovering the remains of ancient men of bygone days along with the material evidences of his culture. Archaeology considers multifarious events of past, dates them and builds up the sequences. In this respect the prehistoric part of the cultural anthropology is akin to archaeology. Not only it attempts to describe the early men and their way of living; it also discusses the genesis of cultural capacity in order to explain the cultural development and diversities through time and space. Cultural anthropology would stand meaningless and incomplete without the aid of archaeology.

2. Discuss the tool types and techniques of Lower Palaeolithic culture.

**Ans:** Before the tool is made the maker first conceptualized the would be shape, size and utility. Then he will start searching for the raw material. To make a core tool, say chopper or handaxe, it requires picking up a big lump of stone and another stone to use as hammer. The lump of stone could be held in the hand, or against the knee, or laid on another support and the hammer strikes at the edge of a flatted area on the core at an oblique angle. Each blow with the hammer, if the force delivered correctly, will detach a flake from the undersurface of the core. The type of flake detached depends upon the exact position of the blow and its angle to the striking platform. Generally, a thick flake with more protuberant cone or bulb of percussion, on the main flake surface near the striking point, is resulted from such flaking method. If a series of similar blows are delivered at the margin or periphery of the core in alternate directions, a number of flake scars converging towards the centre of the core are resulted. All these flaking to produce a desired shape of the tool are called primary flakings. The blow of the hammer for the primary flaking is freely delivered without control onto the edge of the lump (core), and is also known as free flaking. The next step is to sharpen the cutting edge and prepare a suitable handholding place by striking off smaller flakes.

This process of sharpening the edge and blunting of the butt or back is called secondary flaking. Another method of primary flaking, probably one of the most primitive methods of producing flakes is to dash or swing the lump or core against the edge of a larger stone or anvil. The block -on-block or anvil technique produces thick flakes as in the case of the course direct stone hammer technique. A method less commonly used was the bipolar technique. In this, the core was placed upon the edge of another rock and struck with the hammer on the other end and that resulted to the removal of flakes from both the ends. On the core, there are flake scars with negative bulb of percussion at the opposite ends.

The advanced tool technology developed in the early Palaeolithic times is the soft hammer technique or cylinder hammer technique. In this case, the hammer is of a cylindrical bone or antler or hard wood; soft stone might also be used. When the force is delivered along the rounded surface of the hammer, it spreads from a larger area of contact resulting to the removal of thin flat flakes with diffused bulb.

The intersection of a series of these flat flakes produces a nearly straight cutting edge. It is most likely that initial shaping was done with the stone hammer technique and the cylinder hammer technique was used for the finishing process. This technique was first noticed in making the handaxes at the site of St.Acheul, France and is the characteristic Acheulian industry.

Step flaking or resolved flaking is a further advanced secondary flaking technology developed during the early Palaeolithic culture. In this case, the blow of the hammer is controlled and delivered directing towards the center of the core to snap off a flake abruptly leaving angular junction with the core.

3. What is Dating Method? Discuss briefly various methods of relative dating.

**Ans:** Dating techniques are procedures used by scientists to determine the age of an object or a series of events. All methods can be classified into two basic categories:

Relative dating methods : Based on a discipline of geology called stratigraphy, rock layers are used to decipher the sequence of historical geological events. Relative techniques can determine the sequence of events but not the precise date of an event, making these methods unreliable.

Absolute dating methods: These methods are based on calculating the date of artifacts in a more precise way using different attributes of materials. This method includes carbon dating and thermo-luminescence.

The absolute dating method first appeared in 1907 with Lord Rutherford and Professor Boltwood at Yale University, but wasn’t accepted until the 1950s. The first method was based on radioactive elements whose property of decay occurs at a constant rate, known as the half-life of the isotope.

Today, many different radioactive elements have been used, but the most famous absolute dating method is radiocarbon dating, which uses the isotope 14C. This isotope, which can be found in organic materials and can be used only to date organic materials, has been incorrectly used by many to make dating assumptions for non-organic material such as stone buildings. The half-life of 14C is approximately 5730 years, which is too short for this method to be used to date material millions of years old. The isotope of Potassium-40, which has a half-life of 1.25 Billion years, can be used for such long measurements.

Another absolute dating method is thermo luminescence, which dates the last time an item was heated. It is the only method that can be used to date rocks, pottery and minerals for dates that are approximately between 300 to 10,000 years old. This method is based on the fact that when a material is heated or exposed to sunlight, electrons are released and some of them are trapped inside the item. Once you heat this item again using high temperatures, the trapped electrons become excited and recombine with the item’s material. This process frees energy in the form of light, which can be measured. By making multiple measurements (you need at least two for a