This series provides compilation of daily CURRENT AFFAIRS of Anthropology. It is aimed at addressing the requirement of aspirants to add contemporary aspects of the subject to the answers. It also helps in understanding the trends of anthropology across India and the world.

**NOTE:** Please attempt the questions given at the end of the document and can upload on the [telegram channel: Sosin for Anthropology Q&A](https://telegram.com) for peer review.
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Note - For convenience, the respective reference links have been dropped at the end of every topic.
A. ARCHAEOLOGICAL ANTHROPOLOGY

1. Indus Valley & West Bengal

- Chandraketugarh (Fort of Chandraketu) remains a lesser known chapter in history. Often called “the city that never existed”, it was once reportedly an important coastal hub in international trade, between 4th Century BCE and 12th Century CE.
- However, it has since been reduced to a barren mound, with the ruins having spent years being neglected.
- The archaeological site is over 2,500 years old, and is located near the Bidyadhari River, which is around 35 kilometres north east of Kolkata, in North 24 Parganas, near Berachampa and the Harua Road railhead.
- In 1955, through efforts taken by several historians and archaeologists, the Ashutosh Museum of Art, Calcutta University, decided to excavate the site.
- The excavation was carried out between 1955 and 1967 at Khana Mihirer Dhipi, a five-metre high mound at the northeast corner of Berachampa village.
- This led to the discovery of a giant post-Gupta temple complex, the findings of which proved the existence of a flourishing ancient civilizations which possibly spanned six periods from the pre-Maurya to the Pala dynasty.
- Then, in 2000, another excavation was undertaken but remained incomplete and its reports were unpublished.
- The findings over the years include the aforementioned Khana Mihirer Dhipi, a sub-site which is said to be a structure belonging to the Gupta period, and is named after two notable figures in history.
- Some historians also identified Chandraketugarh as Gangaridai, one of the four places that Greek philosopher Ptolemy mentions in his work — Geographia. This may suggest that the site had links with Rome and other ancient civilisations, and was part of a wide network of metal trading. The coins unearthed in excavations are telling of this.
- After the 2000 excavation, evidence of a 30-foot rectangular fort, dating back to somewhere between the Maurya and Gupta periods, was found. The team also found structural remains of a temple.
- When the site was abandoned in 2001, it was left vulnerable to several thefts. People have managed to include items unearthed in their collections, and over the years, several artefacts have made their way to international museums such as Musee Guimet in Paris, as well as Sotheby’s.
- Sources that mention Gangaridai do not point to a specific location where Chandraketugarh could have been located. No inscriptions with specific names of a place, king, or kingdom have been found either. And the legends surrounding the true identity of King Chandraketu only add to the mystery.

Reference:
2. Earliest example of Geometry

- 3,700-Year-Old Babylonian Clay Tablet is Earliest Known Example of Applied Geometry
- Known as Si.427, the ancient clay tablet was discovered and cataloged along with many other tablets by the 1894 French archaeological expedition at Sippar in central Iraq.
- It’s the only known example of a cadastral document from this period, which is a plan used by surveyors to define land boundaries.
- In this case, it tells us legal and geometric details about a field that’s split after some of it was sold off.
- This is a significant object because the surveyor uses what are now known as Pythagorean triples to make accurate right angles.
- There is a whole zoo of right triangles with different shapes. But only a very small handful can be used by Babylonian surveyors. Plimpton 322 is a systematic study of this zoo to discover the useful shapes.
- The dispute is over valuable date palms on the border between their two properties. The local administrator agrees to send out a surveyor to resolve the dispute. It is easy to see how accuracy was important in resolving disputes between such powerful individuals.
- Nobody expected that the Babylonians were using Pythagorean triples in this way. It is more akin to pure mathematics, inspired by the practical problems of the time.
- The ancient surveyors who made Si.427 did something even better: they used a variety of different Pythagorean triples, both as rectangles and right triangles, to construct accurate right angles.

Reference:
3. Bronze Age

- Archaeological evidence suggests the transition from copper to bronze took place around 3300 B.C.
- The invention of bronze brought an end to the Stone Age, the prehistoric period dominated by the use of stone tools and weaponry. Different human societies entered the Bronze Age at different times.
- An ancient civilization is defined to be in the Bronze Age either by producing bronze by smelting its own copper and alloying with tin, arsenic, or other metals.
- The transition from Copper Age to Bronze Age in Europe occurs between the late 5th and the late 3rd millennia BC.
- In the Ancient Near East the Copper Age covered about the same period, beginning in the late 5th millennium BC and lasting for about a millennium before it gave rise to the Early Bronze Age.
- Near East, Western Asia and the Near East were the first regions to enter the Bronze Age, which began with the rise of the Mesopotamian civilization of Sumer in the mid 4th millennium BC.
- The period is named after one of its key technological bases: the crafting of bronze. Bronze is an alloy of tin and copper.
- During the Bronze Age, many people crossed the sea from mainland Europe to Britain.
- They travelled in long wooden boats rowed by oarsmen. The boats carried people, animals and trading goods. They were loaded with metal from mines, precious swords, pots and jewellery.

Reference:
https://www.history.com/topics/prehistory/bronze-age

B. BIOLOGICAL ANTHROPOLOGY

1. Baroreceptors

- Baroreceptors — natural blood-pressure barometers inside our bodies — detect subtle changes in blood pressure and adjust hormone levels to keep it in check.
- Scientists have long suspected that these pressure sensors existed in specialized kidney cells called renin cells, but no one has been able to locate them until now.
- It made sense: the cells had to know when to release renin, a hormone that helps regulate blood pressure.
- But even though scientists suspected this cellular barometer had to exist, they couldn’t tell what it was and whether it was located in renin cells or surrounding cells.
- Using a variety of novel in vivo and in vitro approaches, the researchers determined that the baroreceptor was a mechanotransducer inside renin cells.
This mechanotransducer detects pressure changes outside the cell, then transmits these mechanical signals to the cell nucleus, like how the cochlea in our ear turns sound vibrations into nerve impulses our brain can understand.

Ultimately, when the baroreceptors detect too much pressure outside the renin cell, production of renin is restricted, while blood pressure that is too low prompts the production of more renin.

It was exhilarating to find that the elusive pressure-sensing mechanism, the baroreceptor, was intrinsic to the renin cell, which has the ability to sense and react, both within the same cell.

Reference:

2. Dolphin Evolution

Modern cetaceans—which include dolphins, whales and porpoises—are well adapted for aquatic life. They have blubber to insulate and fins to propel and steer.

Today’s cetaceans also sport a unique type of nasal passage: It rises at an angle relative to the roof of the mouth—or palate—and exits at the top of the head as a blowhole.

This is an apt adaptation for an air-breathing animal at home in the water. Yet as embryos, the cetacean nasal passage starts out in a position more typical of mammals: Parallel to the palate and exiting at the tip of the snout, or rostrum.

Cetacean experts have long puzzled over how the nasal passage switches during embryonic and fetal development from a palate-parallel pathway to an angled orientation terminating in a blowhole.

The shift in orientation and position of the nasal passage in cetaceans is a developmental process that’s unlike any other mammal.

New research by Roston and V. Louise Roth, a professor of biology at Duke University, is shedding light on this process.

By measuring anatomical details of embryos and fetuses of pantropical spotted dolphins, they determined the key anatomical changes that flip the orientation of the nasal passage up. The three phases of growth are:

1. Initially parallel, the roof of the mouth and the nasal passage become separated as the area between them grows into a triangular shape. This phase begins during embryonic development after the face starts forming, which for the pantropical spotted dolphin, is in the first two months after fertilization.

2. The snout grows longer at an angle to the nasal passage, further separating the nostrils from the tip of the snout. This phase begins later in fetal development and may continue even after birth.
3. The skull folds backward, and the head and body become more aligned. This rotates the nasal passage up so that it becomes nearly vertical relative to the body axis. This phase begins in late embryonic development and continues through fetal development.

Reference:

UPSC Previous year questions based on today’s concept:
1. Ethno archaeology as a research strategy (10 Marks - 2018)
2. Genesis of Urbanisation in India (S.N. - 1995)

   Pl do not forget to upload your answer sheet for a peer review on the telegram channel:
   Sosin for Anthropology Q&A
1. Write a note on the chief characteristics of Indus Valley culture. (15 Marks)