

CUET PG 2025 Anthropology Question Paper with Solutions

Time Allowed :1 Hour 45 Mins	Maximum Marks :300	Total Questions :75
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination duration is 90 minutes. Manage your time effectively to attempt all questions within this period.
2. The total marks for this examination are 300. Aim to maximize your score by strategically answering each question.
3. There are 75 mandatory questions to be attempted in the Agro forestry paper. Ensure that all questions are answered.
4. Questions may appear in a shuffled order. Do not assume a fixed sequence and focus on each question as you proceed.
5. The marking of answers will be displayed as you answer. Use this feature to monitor your performance and adjust your strategy as needed.
6. You may mark questions for review and edit your answers later. Make sure to allocate time for reviewing marked questions before final submission.
7. Be aware of the detailed section and sub-section guidelines provided in the exam. Understanding these will aid in effectively navigating the exam.

1. In association studies, the level of significance is considered as:

- (A) $P = 0.05$
- (B) $P > 0.05$
- (C) $P > 0.1$
- (D) $P \leq 0.05$

Correct Answer: (D) $P \leq 0.05$

Solution:

Step 1: Understanding the Concept:

The significance level, denoted by alpha (α), functions as a predetermined threshold in hypothesis testing. It represents the probability of making a Type I error, which occurs when a true null hypothesis is incorrectly rejected. In the context of association studies, the null hypothesis typically states that there is no association.

Step 2: Detailed Explanation:

The p-value is a calculated probability that measures the evidence against the null hypothesis. It indicates the likelihood of observing the study's results, or more extreme ones, if the null hypothesis were actually true. To determine statistical significance, this p-value is compared to the significance level (α). By convention, α is most often set at 0.05.

- If the p-value is less than or equal to this threshold ($P \leq 0.05$), the observed association is considered unlikely to have occurred by random chance. The null hypothesis is therefore rejected, and the result is deemed statistically significant.
- $P = 0.05$ is the exact boundary of significance.
- $P > 0.05$ indicates the result is not statistically significant.
- $P > 0.1$ suggests very weak evidence against the null hypothesis.

Step 3: Final Answer:

According to the established standard in scientific research, an association is considered statistically significant if its p-value is less than or equal to 0.05. Consequently, the correct criterion is $P \leq 0.05$.

💡 Quick Tip

Remember that $P \leq 0.05$ is the most widely accepted threshold for statistical significance in many fields, including biology and medicine. A smaller p-value (e.g., $P < 0.01$) indicates stronger evidence against the null hypothesis.

2. Which of the following is not found in Maglemosian culture?

- (A) Pottery
- (B) Adzes
- (C) Antler hafts
- (D) Harpoons

Correct Answer: (A) Pottery

Solution:

Step 1: Understanding the Concept:

The Maglemosian culture represents a Mesolithic (Middle Stone Age) society of hunter-gatherer-fishers who inhabited Northern Europe from approximately 9000 to 6000 BC. Their material culture reflects an adaptation to the post-glacial forest and wetland environment.

Step 2: Detailed Explanation:

An analysis of the options based on the archaeological record reveals the following:

- **Pottery:** The manufacture of fired clay vessels (pottery) is a defining characteristic of the subsequent Neolithic (New Stone Age) period, associated with farming and settled life. The Maglemosian culture was pre-ceramic and thus did not produce pottery.

- **Adzes:** These woodworking tools, with a blade fixed perpendicular to the handle, were a common and essential part of the Maglemosian toolkit, used for tasks such as building shelters and making dugout canoes.
- **Antler hafts:** Maglemosian people were highly skilled in using organic materials. Antler was frequently fashioned into durable handles (hafts) for their stone tools.
- **Harpoons:** Made from bone or antler, harpoons were critical for exploiting the rich aquatic resources of the time, used for fishing and hunting.

Step 3: Final Answer:

While adzes, antler hafts, and harpoons are all typical artifacts of the Mesolithic Maglemosian culture, pottery is an innovation of the later Neolithic period. Therefore, pottery is the item not found in Maglemosian archaeological sites.

💡 Quick Tip

For questions about prehistoric cultures, remember the key technological distinctions between periods: Paleolithic (chipped stone tools), Mesolithic (microliths, bone/antler tools), and Neolithic (polished stone tools, pottery, agriculture). Pottery is a defining feature of the Neolithic revolution.

3. The addition of poly(A) tails to 3' end is a characteristic feature of:

- (A) Translation
- (B) Transcription
- (C) Post-translational modification
- (D) Post-transcriptional modification

Correct Answer: (D) Post-transcriptional modification

Solution:

Step 1: Understanding the Concept:

In eukaryotic cells, the journey from a gene on DNA to a functional protein involves several distinct stages. The initial step is transcription, where a gene is copied into a precursor messenger RNA (pre-mRNA). This immature molecule must then be processed through a series of modifications to become a mature messenger RNA (mRNA) ready for translation. These crucial processing steps are known as post-transcriptional modifications.

Step 2: Detailed Explanation:

- **Transcription:** The process of synthesizing a pre-mRNA molecule from a DNA template.
- **Post-transcriptional modification:** This is a critical maturation phase for the pre-mRNA, which includes:
 1. **5' Capping:** Attaching a special modified guanine nucleotide to the 5' end.
 2. **Splicing:** Excising non-coding regions (introns) and joining the coding regions (exons).
 3. **Polyadenylation:** Adding a long sequence of adenine nucleotides, the poly(A) tail, to the

3' end. This tail is essential for mRNA stability, its export from the nucleus, and its efficient translation.

- **Translation:** The process where the genetic information on the mature mRNA is used by ribosomes to synthesize a protein.

- **Post-translational modification:** Any modification made to the protein *after* it has been synthesized.

Step 3: Final Answer:

The addition of a poly(A) tail is an event that occurs after the RNA molecule has been transcribed from DNA but before it is used to synthesize a protein. Therefore, it is a hallmark of post-transcriptional modification.

💡 Quick Tip

Remember the central dogma flow: DNA → Transcription → pre-mRNA → Post-transcriptional modification → mRNA → Translation → Protein → Post-translational modification. Placing polyadenylation in this sequence helps identify it correctly.

4. Match LIST-I with LIST-II

LIST-I (Tribe)	LIST-II (Movement)
A. Mundas	I. Bhagat movement
B. Gonds	II. Chipko movement
C. Bhils	III. Birsa movement
D. Bhotiyas	IV. Rampa rebellion

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-III, B-I, C-IV, D-II
- (C) A-II, B-IV, C-I, D-III
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (D) A-III, B-IV, C-I, D-II

Solution:

Step 1: Understanding the Concept:

This question requires establishing the correct historical associations between specific tribal communities in India and the major social or political movements they were involved in.

Step 2: Detailed Explanation:

Let's systematically connect each tribe with its movement:

- **A. Mundas:** The Munda tribe is most famously associated with the major anti-colonial uprising in the Chota Nagpur region led by the visionary leader Birsa Munda in the late 19th

century. This is known as the **Birsa movement**. Thus, A matches with III.

- **B. Gonds:** The **Rampa Rebellion** (1922-24) was a tribal insurgency against British policies in the Godavari region. The tribal warriors, including the Koya who are part of the larger Gond community, were central to this movement. Thus, B matches with IV.

- **C. Bhils:** The **Bhagat movement** was a socio-religious reform movement that gained momentum among the Bhil community of Rajasthan and Gujarat. Led by figures like Govindgiri, it focused on social purity and asserting Bhil rights. Thus, C matches with I.

- **D. Bhotiyas:** The **Chipko movement** was a pivotal environmental campaign in the 1970s in the Himalayas of present-day Uttarakhand. Local communities, including the Bhotiyas, participated actively by non-violently protecting trees from logging. Thus, D matches with II.

Step 3: Final Answer:

The correct pairings are as follows:

A → III

B → IV

C → I

D → II

This combination, A-III, B-IV, C-I, D-II, matches option (D).

💡 Quick Tip

For matching questions, focus on identifying one or two pairs you are certain about. For instance, the link between Birsa Munda and the Munda tribe is very well-known. This can help you eliminate incorrect options quickly.

5. Which of the following species are included among gracile australopithecines?

A. *A. africanus*

B. *A. boisei*

C. *A. afarensis*

D. *A. anamensis*

Choose the correct answer from the options given below:

(A) A, B and D only

(B) A, B and C only

(C) A, C and D only

(D) B, C and D only

Correct Answer: (C) A, C and D only

Solution:

Step 1: Understanding the Concept:

Paleoanthropologists categorize early hominins of the genus *Australopithecus* into two broad groups based on their physical characteristics: "gracile" and "robust." This classification primarily reflects differences in their skulls and teeth related to chewing. Gracile australopithecines

had a more slender build with smaller jaws and molars, while robust forms had massive facial structures and enormous chewing teeth.

Step 2: Detailed Explanation:

Let's evaluate each species according to this classification:

- **A. *A. africanus*:** This species from South Africa is a quintessential example of a gracile australopithecine, characterized by its lighter facial structure.
- **B. *A. boisei*:** Often classified as *Paranthropus boisei*, this East African species is the archetype of a "hyper-robust" hominin, with a massive jaw and huge molars. It is definitively not gracile.
- **C. *A. afarensis*:** The species of the famous "Lucy" fossil, *A. afarensis* from East Africa, is considered gracile due to its less heavily built skull and dentition compared to robust species.
- **D. *A. anamensis*:** As one of the earliest australopithecines, this species also displays the more generalized and lightly built features that place it in the gracile category.

Step 3: Final Answer:

The species that fit the gracile description are *A. africanus*, *A. afarensis*, and *A. anamensis*. Since *A. boisei* is a robust form, the correct combination is A, C, and D only.

💡 Quick Tip

Remember the key distinction: "gracile" means slender or lightly built, while "robust" means strong and heavily built. The robust species (*P. boisei*, *P. robustus*, *P. aethiopicus*) are specialized for heavy chewing and are often grouped into their own genus, *Paranthropus*.

6. Which molecular technique is used to identify genetic variants in human DNA?

- (A) PCR-RFLP
- (B) FISH
- (C) Karyotyping
- (D) Chromosomal banding

Correct Answer: (A) PCR-RFLP

Solution:

Step 1: Understanding the Concept:

The question asks for a technique that can detect genetic variants, which are small-scale differences in the DNA sequence (like single nucleotide changes), as opposed to large-scale abnormalities of entire chromosomes.

Step 2: Detailed Explanation:

A review of the techniques' applications:

- **PCR-RFLP (Polymerase Chain Reaction - Restriction Fragment Length Polymorphism):** This is a targeted molecular technique. It first amplifies a specific DNA region (PCR) and then uses a restriction enzyme to cut the DNA at a particular sequence. If a genetic variant alters this sequence, the cutting pattern changes, producing DNA fragments of different lengths. This variation allows for the precise identification of the genetic variant.
- **FISH (Fluorescence In Situ Hybridization):** This is a cytogenetic method that uses fluorescent probes to "paint" specific regions on chromosomes. It is effective for spotting large-scale issues like an abnormal number of chromosomes or large deletions, but it lacks the resolution to see small variants within a gene.
- **Karyotyping:** This technique provides a complete picture of an individual's chromosomes, arranged in order. It is the standard method for diagnosing conditions caused by missing, extra, or grossly malformed chromosomes, but cannot detect changes at the DNA sequence level.
- **Chromosomal banding:** Used in karyotyping, this staining method creates a pattern of bands on chromosomes, which helps in their identification and the detection of large structural changes. It does not provide information about the underlying DNA sequence.

Step 3: Final Answer:

PCR-RFLP is specifically designed to analyze DNA at the sequence level and identify small genetic variants. The other options are cytogenetic techniques for observing chromosomes at a much lower resolution. Therefore, PCR-RFLP is the correct choice.

Quick Tip

Distinguish between techniques for gene-level analysis and chromosome-level analysis. PCR-based methods like PCR-RFLP and sequencing are used for small-scale genetic variants (genes, SNPs). Karyotyping, banding, and FISH are used for large-scale chromosomal abnormalities.

7. Match LIST-I with LIST-II

LIST-I (Genetic Disease)	LIST-II (Mode of inheritance)
A. Cystic fibrosis	I. X-linked recessive
B. Fragile X Syndrome	II. Autosomal recessive
C. Huntington's disease	III. X-linked dominant
D. Color blindness	IV. Autosomal dominant

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-I, B-III, C-II, D-IV
- (C) A-II, B-I, C-IV, D-III
- (D) A-II, B-III, C-IV, D-I

Correct Answer: (D) A-II, B-III, C-IV, D-I

Solution:

Step 1: Understanding the Concept:

The objective is to accurately pair several well-known genetic disorders with their specific pattern of inheritance. These patterns describe how traits are passed down through generations, based on the location (autosomal or X-linked) and nature (dominant or recessive) of the responsible gene.

Step 2: Detailed Explanation:

Let's establish the inheritance mode for each disease:

- **A. Cystic fibrosis:** This is a classic example of an **autosomal recessive** disorder. For an individual to be affected, they must inherit two copies of the mutated gene, one from each parent. So, **A matches with II.**
- **B. Fragile X Syndrome:** This condition, a leading cause of inherited intellectual disability, follows an **X-linked dominant** pattern. The gene is located on the X chromosome, and a single copy can cause the disorder. So, **B matches with III.**
- **C. Huntington's disease:** This neurodegenerative disorder is inherited in an **autosomal dominant** fashion. The presence of just one copy of the mutated gene is sufficient to cause the disease. So, **C matches with IV.**
- **D. Color blindness:** Common red-green color blindness is a classic **X-linked recessive** trait. It is more prevalent in males because they need only one copy of the recessive allele on their single X chromosome to express the trait. So, **D matches with I.**

Step 3: Final Answer:

By combining the correct pairings:

A → II

B → III

C → IV

D → I

The resulting sequence A-II, B-III, C-IV, D-I corresponds to option (D).

💡 Quick Tip

To remember inheritance patterns, link diseases to key concepts. **Dominant** means one copy of the gene is enough (Huntington's). **Recessive** means two copies are needed (Cystic Fibrosis). **X-linked** affects males more often (Color blindness).

8. Match the LIST-I with LIST-II

LIST-I (Genetic condition)	LIST-II (Chromosome number)
A. Edward's syndrome	I. Trisomy of 16
B. Down's syndrome	II. Trisomy of 18
C. Mosaic trisomy	III. Trisomy of 21
D. Patau's syndrome	IV. Trisomy of 13

Choose the correct answer from the options given below:

- (A) A-III, B-II, C-I, D-IV
- (B) A-I, B-III, C-II, D-IV
- (C) A-II, B-I, C-IV, D-III
- (D) A-II, B-III, C-I, D-IV

Correct Answer: (D) A-II, B-III, C-I, D-IV

Solution:

Step 1: Understanding the Concept:

The question requires matching specific genetic syndromes, which are all types of trisomy, with the particular chromosome that is present in three copies instead of the usual two.

Step 2: Detailed Explanation:

Let's identify the chromosomal basis for each condition:

- **A. Edward's syndrome:** This condition is defined by the presence of an extra copy of **chromosome 18**, and is therefore medically known as Trisomy 18. So, **A matches with II**.
- **B. Down's syndrome:** This is the most common trisomy in live births, caused by an extra copy of **chromosome 21**, and is known as Trisomy 21. So, **B matches with III**.
- **C. Mosaic trisomy:** Mosaicism refers to having a mix of normal cells and cells with a trisomy. While any chromosome can be affected, **Trisomy 16** is the most frequent trisomy at conception. Full Trisomy 16 is lethal, but survival is possible in cases of mosaic Trisomy 16, making it a plausible, distinct answer in this context. So, **C matches with I**.
- **D. Patau's syndrome:** This severe syndrome is caused by an additional copy of **chromosome 13**, and is also known as Trisomy 13. So, **D matches with IV**.

Step 3: Final Answer:

Consolidating the correct pairings:

- A → II (Trisomy of 18)
- B → III (Trisomy of 21)
- C → I (Trisomy of 16)
- D → IV (Trisomy of 13)

This sequence, A-II, B-III, C-I, D-IV, corresponds to option (D).

 Quick Tip

A mnemonic to remember the three major trisomies: at age **13** (Patau) you can go to a **PG-13** movie, at age **18** (Edward's) you are an **E**ligible voter, and at age **21** (Down's) you can go **D**rinking.

9. The term prehistory first coined in 1857, was popularised by John Lubbock in the book titled-

- (A) History of the past
- (B) Prehistoric archaeology
- (C) Archaeology
- (D) Prehistoric times

Correct Answer: (D) Prehistoric times

Solution:

Step 1: Understanding the Concept:

The question asks to identify the title of the highly influential 19th-century book written by Sir John Lubbock which played a key role in bringing the term "prehistory" into common scientific and public vocabulary.

Step 2: Detailed Explanation:

Sir John Lubbock was a pivotal figure in the development of archaeology as a scientific discipline. In 1865, he published a foundational work that synthesized knowledge of early human societies. The full title was "**Pre-historic Times, as Illustrated by Ancient Remains, and the Manners and Customs of Modern Savages**". This book was immensely popular and established a systematic framework for studying the human past before written records. It was in this text that he also introduced the now-standard terms "Palaeolithic" and "Neolithic".

Step 3: Final Answer:

The common short title by which Lubbock's seminal work is known is "Prehistoric Times". Therefore, this is the correct option.

 Quick Tip

Associate John Lubbock with the terms Palaeolithic, Neolithic, and the book "Prehistoric Times". His work was fundamental in structuring the study of deep human history before written records.

10. Which of the following are characteristics of primitive law in reference to Indian tribes?

- A. Collective responsibility
- B. Breach of law affects only the individual
- C. Territorial limitation
- D. Evidences are usually based on oaths and ordeals

Choose the correct answer from the options given below:

- (A) A, B and D only
- (B) B, C and D only
- (C) B and D only
- (D) A, C and D only

Correct Answer: (D) A, C and D only

Solution:

Step 1: Understanding the Concept:

Primitive law, also known as customary law, refers to the unwritten legal systems found in traditional societies, such as tribal communities. These systems are based on established customs, social norms, and community consensus rather than formal statutes created by a state.

Step 2: Detailed Explanation:

Let's evaluate each characteristic in the context of tribal law:

- **A. Collective responsibility:** This is a cornerstone of many customary legal systems. The actions of an individual are seen as reflecting on their entire kin group or clan, which shares responsibility for resolving disputes and making amends. This reinforces group solidarity.
- **B. Breach of law affects only the individual:** This statement is incorrect. It represents a modern legal concept. In many tribal societies, a crime is viewed as an act that disturbs the harmony of the entire community, not just an offense between two individuals.
- **C. Territorial limitation:** Customary laws are inherently local. The rules and jurisdiction of a particular tribe's legal system are generally binding only upon its members and within its own recognized territory.
- **D. Evidences are usually based on oaths and ordeals:** Lacking modern forensic science, many traditional justice systems rely on ritualistic practices to determine guilt. Oaths sworn to deities and ordeals (tests of endurance or danger) are used as methods to reveal the truth, based on a belief in supernatural judgment.

Step 3: Final Answer:

The defining characteristics of primitive law among the given options are collective responsibility (A), territorial limitation (C), and reliance on oaths and ordeals (D). The idea that a breach of law affects only the individual (B) is contrary to this system. Thus, the correct combination is A, C, and D only.

💡 Quick Tip

Remember that primitive law prioritizes community harmony and social order over individual rights as understood in modern law. Key concepts are collective responsibility, custom, and community-based justice, which contrasts with the individual-focused, state-enforced nature of modern legal systems.

11. Which of the following is not related to evolutionary changes in skull, eye and brain among the primates?

- (A) Stereoscopic vision
- (B) Binocular vision
- (C) Reduced Olfaction
- (D) Increased sensory modalities

Correct Answer: (D) Increased sensory modalities

Solution:

Step 1: Understanding the Concept:

Primate evolution is defined by a set of adaptations, largely for life in the trees, which led to a fundamental shift in sensory priorities. There was a move away from reliance on the sense of smell toward a heavy reliance on the sense of sight, which drove significant changes in the skull and brain.

Step 2: Detailed Explanation:

An examination of the options reveals the following:

- **Stereoscopic vision:** This is the ability to perceive the world in three dimensions, providing crucial depth perception for judging distances. It is a direct result of the brain processing information from two forward-facing eyes and is a key primate adaptation. This is a related change.
- **Binocular vision:** This refers to the overlapping fields of view created by having eyes positioned at the front of the head. It is the anatomical prerequisite for stereoscopic vision and a defining feature of primates. This is a related change.
- **Reduced Olfaction:** The increased emphasis on vision was coupled with a de-emphasis on the sense of smell (olfaction). This evolutionary trade-off is physically evident in the shortened snout and smaller olfactory regions in the primate brain compared to many other mammals. This is a related change.
- **Increased sensory modalities:** This option suggests that primates developed entirely new categories of senses (like a bat's echolocation or a shark's electroreception). This is not correct. Primate evolution involved a re-organization and enhancement of existing senses, not the addition of new ones. Vision was greatly improved while olfaction was diminished.

Step 3: Final Answer:

Stereoscopic vision, binocular vision, and reduced olfaction are all central to the evolutionary story of the primate skull, eyes, and brain. The idea of "increased sensory modalities" is inaccurate, as primates specialized their existing senses rather than acquiring new ones.

 Quick Tip

Remember the primate evolutionary trend: a move towards a visually-dominant world. This means forward-facing eyes for depth perception and a smaller snout because smell became less critical. Anything that contradicts this visual-primacy model is likely the incorrect option.

12. Match LIST-I with LIST-II

LIST-I (Species)	LIST-II (Discoverer)
A. A. afarensis	I. Raymond Dart
B. A. boisei	II. Robert Broom
C. A. africanus	III. Donald Johanson
D. A. robustus	IV. Louis Leakey

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-IV, B-I, C-II, D-III
- (C) A-II, B-III, C-IV, D-I
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (D) A-III, B-IV, C-I, D-II

Solution:

Step 1: Understanding the Concept:

This question tests knowledge of paleoanthropological history by requiring the matching of significant early hominin species with the scientists credited for their discovery and formal description.

Step 2: Detailed Explanation:

- **A. *A. afarensis*:** This species was established based on numerous fossil finds, most famously the "Lucy" skeleton, unearthed in Ethiopia in 1974 by a team co-led by **Donald Johanson**. So, **A matches with III.**
- **B. *A. boisei*:** The type specimen for this robust species (OH 5) was discovered at Olduvai Gorge, Tanzania, in 1959 by Mary Leakey. Her husband, **Louis Leakey**, led the expedition and was instrumental in its analysis and naming. So, **B matches with IV.**
- **C. *A. africanus*:** The first specimen of this species was the "Taung Child" skull, found in South Africa in 1924. Its crucial importance as a human ancestor was recognized by Professor **Raymond Dart**, who named the species. So, **C matches with I.**
- **D. *A. robustus*:** This robust species from South Africa was first identified from fossils found at Kromdraai. The species was named in 1938 by the paleontologist **Robert Broom**. So, **D matches with II.**

Step 3: Final Answer:

By aligning each species with its discoverer:

- A → III
- B → IV
- C → I
- D → II

The correct combination is A-III, B-IV, C-I, D-II, matching option (D).

 Quick Tip

Associate key fossils with their discoverers: Lucy with Johanson, Taung Child with Dart, Zinjanthropus with the Leakeys, and the South African robust forms with Broom. These are foundational discoveries in human evolution.

13. Which of the following is also known as reduction division?

- (A) Mitosis
- (B) Meiosis I
- (C) Mitosis I
- (D) Meiosis II

Correct Answer: (B) Meiosis I

Solution:

Step 1: Understanding the Concept:

The term "reduction division" refers to a type of cell division where the total number of chromosomes is halved. This is a key feature of meiosis, the process that creates gametes (sperm and egg cells).

Step 2: Detailed Explanation:

- **Mitosis:** This process produces two daughter cells that are genetically identical to the parent cell. The chromosome number remains the same (e.g., diploid $2n \rightarrow$ diploid $2n$). This is an "equational," not a reductional, division.
- **Meiosis I:** In the first of two meiotic divisions, homologous chromosomes pair up and are then segregated into two separate daughter cells. This action reduces the chromosome number from diploid ($2n$) to haploid (n). Because the chromosome count is halved, Meiosis I is the ****reduction division****.
- **Mitosis I:** This term is biologically incorrect as mitosis is a single, continuous process.
- **Meiosis II:** The second meiotic division is similar to mitosis. It involves the separation of sister chromatids. The chromosome number does not change (haploid $n \rightarrow$ haploid n). This is therefore considered an "equational" division.

Step 3: Final Answer:

The specific process where the chromosome number is halved is Meiosis I. Hence, it is correctly identified as reduction division.

 Quick Tip

Remember: **Meiosis I = Reductional** (reduces chromosome number from $2n$ to n).
Meiosis II = Equational (like mitosis, separates sister chromatids, n to n).

14. The family in which couple after marriage stays with the groom's mother's brother's family is called:

- (A) Neolocal
- (B) Patrilocal
- (C) Avunculocal
- (D) Matrilocal

Correct Answer: (C) Avunculocal

Solution:

Step 1: Understanding the Concept:

The question asks for the specific anthropological term that describes the post-marital residence pattern where a newly married couple lives with the groom's maternal uncle.

Step 2: Detailed Explanation:

Let's define the given anthropological terms for residence patterns:

- **Neolocal:** The newly married couple establishes a new household, independent of either of their families.
- **Patrilocal:** The couple lives with or near the groom's paternal family.
- **Avunculocal:** The couple lives with or near the brother of the groom's mother (i.e., his maternal uncle). This pattern is often associated with matrilineal descent systems.
- **Matrilocal:** The couple lives with or near the bride's maternal family.

Step 3: Final Answer:

The scenario described—a couple living with the groom's mother's brother—is the precise definition of the avunculocal residence pattern.

💡 Quick Tip

The key to this term is the prefix "avuncu-", which is derived from the Latin "avunculus" meaning "maternal uncle". Associating this prefix with "uncle" will help you remember the definition.

15. Which parameter may be used to determine acclimatization to cold climate?

- (A) Increased metabolic rate
- (B) Reduced respiratory rate
- (C) Reduced cardiac output
- (D) Increased Iron deficiency

Correct Answer: (A) Increased metabolic rate

Solution:

Step 1: Understanding the Concept:

Acclimatization to cold involves the body making physiological adjustments to maintain its core temperature in an environment where heat is constantly being lost. A key strategy for this is to increase internal heat production (thermogenesis).

Step 2: Detailed Explanation:

Let's evaluate how each parameter relates to cold adaptation:

- **Increased metabolic rate:** The body's metabolic processes generate heat. To combat cold, the basal metabolic rate (BMR) can be elevated over time, leading to greater continuous heat production. This is a primary and measurable indicator of successful acclimatization to cold.
- **Reduced respiratory rate:** Breathing rate is primarily regulated by gas exchange needs (O₂ and CO₂ levels), not temperature. It is not a standard adaptive response to cold.
- **Reduced cardiac output:** The body's cardiovascular response to cold is typically to constrict blood vessels in the extremities to conserve core heat. A general reduction in the heart's total output is not an adaptive mechanism for generating warmth.
- **Increased Iron deficiency:** Iron deficiency is a pathological state (anemia) and not a beneficial adaptation. It would compromise oxygen delivery and likely impair the body's ability to generate heat and cope with cold.

Step 3: Final Answer:

An increased metabolic rate is the most direct and significant physiological adjustment for increasing heat production in response to chronic cold exposure. It is therefore a key parameter for determining cold acclimatization.

💡 Quick Tip

Think of the body as a furnace. To stay warm in the cold, you need to turn up the heat. In physiological terms, "turning up the heat" means increasing your metabolic rate.

16. _____ is an intensive qualitative method involving careful and complete study of a person or an institution.

- (A) Observation
- (B) Case study
- (C) Ethnography
- (D) Interview

Correct Answer: (B) Case study

Solution:

Step 1: Understanding the Concept:

The question describes a research method characterized by its intensity, depth, and focus on a single, bounded unit of analysis, such as one individual or one organization.

Step 2: Detailed Explanation:

Let's distinguish between the given terms:

- **Observation:** This is a technique for gathering data, not an entire research method in itself. It can be a component of other methods.
- **Case study:** This method is defined by its in-depth investigation of a single "case" (a person, group, event, or institution) to gain a holistic and detailed understanding of that specific instance in its real-world context. This definition perfectly matches the description in the question.
- **Ethnography:** This is a broader method aimed at describing and understanding an entire culture or social group, rather than focusing on a single, bounded entity as a case.
- **Interview:** This is a tool for data collection through questioning, used within various research frameworks like case studies, but it is not the overarching method itself.

Step 3: Final Answer:

The research method that specifically involves an intensive, careful, and complete study of a single person or institution is the case study.

💡 Quick Tip

Think of "case" as in a "medical case" or a "legal case"—it's a deep dive into one specific instance. This helps distinguish it from ethnography (studying a whole culture) or observation (just one way to collect data).

17. Arrange the following in chronological order of their year of discovery:

- A. Australopithecus boisei
- B. Australopithecus africanus
- C. Australopithecus robustus
- D. Cro-Magnon

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) D, B, C, A
- (C) B, A, D, C
- (D) C, A, D, B

Correct Answer: (B) D, B, C, A

Solution:

Step 1: Understanding the Concept:

To answer this question, it is necessary to recall the historical timeline of significant discoveries

in the field of paleoanthropology. The task is to sequence the discovery dates of these four important hominin finds, from the earliest date to the most recent.

Step 2: Detailed Explanation:

Let's establish the specific year of discovery for each fossil group:

- **D. Cro-Magnon:** The initial discovery of these anatomically modern human remains occurred in a rock shelter in France in the year **1868**, representing one of the earliest major fossil human finds.
- **B. Australopithecus africanus:** The species was first identified from the "Taung Child" skull, which was discovered in a quarry in South Africa in **1924**.
- **C. Australopithecus robustus:** The first specimen of this species was found at the Kromdraai site in South Africa in **1938**.
- **A. Australopithecus boisei:** The iconic "Zinjanthropus" skull, the type specimen for this species, was unearthed by Mary Leakey in Olduvai Gorge, Tanzania, in **1959**.

Step 3: Final Answer:

By arranging these events chronologically based on their discovery dates, we get the following order:

1. Cro-Magnon (1868) - D
2. Australopithecus africanus (1924) - B
3. Australopithecus robustus (1938) - C
4. Australopithecus boisei (1959) - A

The correct historical sequence is D, B, C, A.

 Quick Tip

Remember that the European discoveries of fossils like Neanderthal and Cro-Magnon happened in the 19th century, well before the significant African hominin discoveries of the 20th century (Taung Child in the 20s, robust forms in the 30s-50s).

18. Medium bones and solid torso, low fat levels, wide shoulders with a narrow waist are characteristic features of:

- (A) Extreme endomorphy
- (B) Mesomorphy
- (C) Ectomorphy
- (D) Extreme ectomorphy

Correct Answer: (B) Mesomorphy

Solution:

Step 1: Understanding the Concept:

This question relates to the concept of somatotyping, a classification system for human physique

developed by William H. Sheldon. This system categorizes the human body into three fundamental types: endomorphy, mesomorphy, and ectomorphy.

Step 2: Detailed Explanation:

Let's define the characteristics of each primary somatotype:

- **Endomorphy:** This body type is distinguished by a higher proportion of body fat, leading to a rounder and softer appearance. Individuals with this physique typically have a less defined muscular structure.
- **Mesomorphy:** This somatotype is characterized by a well-developed musculoskeletal system. The features described—a solid build, wide shoulders, a narrow waist, and low body fat—are the defining traits of a mesomorphic, or athletic, physique.
- **Ectomorphy:** This body type is defined by linearity and a delicate build. Individuals with this physique tend to be tall and thin, with low body fat and minimal muscle mass.

Step 3: Final Answer:

The specific combination of traits mentioned—medium bones, a solid torso, low fat, wide shoulders, and a narrow waist—is the classic description of the mesomorphic body type.

💡 Quick Tip

A simple way to remember the somatotypes: **Endo** = Round (like an "O"), **Meso** = Muscular (like "M"), **Ecto** = Linear/Thin (like an "I"). The description clearly points to a muscular, "M-shaped" build.

19. Which dating method is used to date samples from 5,000 years upto 3 billion years old?

- (A) Carbon-14
- (B) Potassium-Argon (K-Ar)
- (C) Uranium Series
- (D) Thermoluminescence dating

Correct Answer: (B) Potassium-Argon (K-Ar)

Solution:

Step 1: Understanding the Concept:

The question requires identifying a dating technique with an exceptionally wide effective range, capable of measuring ages from the relatively recent past (thousands of years) to deep geological time (billions of years). The range of each method is determined by the half-life of the isotope it measures.

Step 2: Detailed Explanation:

Let's examine the effective time ranges of the listed methods:

- **Carbon-14 (Radiocarbon) dating:** Based on the decay of Carbon-14 (half-life of 5,730 years), this method is suitable for organic materials up to approximately 50,000 years old. It cannot be used for multi-million or billion-year-old samples.
- **Potassium-Argon (K-Ar) dating:** This method measures the decay of Potassium-40 into Argon-40. With a very long half-life of about 1.25 billion years, it is ideal for dating ancient volcanic rocks. Its sensitivity allows it to date materials from a few thousand years old all the way back to the formation of the Earth, making it incredibly versatile.
- **Uranium Series dating:** This encompasses several techniques. While some, like Uranium-lead dating, can date samples that are billions of years old, others, like Uranium-thorium, are used for more recent time frames (up to 500,000 years). Potassium-Argon is a single method known for covering the entire specified range.
- **Thermoluminescence (TL) dating:** This technique dates materials like pottery or burnt flint that have been exposed to heat. Its effective range extends to several hundred thousand years, which is far too short for the upper limit required.

Step 3: Final Answer:

Among the choices provided, the Potassium-Argon (K-Ar) dating method is uniquely suited to cover the vast chronological span from 5,000 years up to 3 billion years.

Quick Tip

Associate dating methods with their time scales and materials. Carbon-14 is for recent organic remains. TL is for burnt materials (pottery). K-Ar is for very old volcanic rocks, which is crucial for dating fossils found within those rock layers.

20. Which of the following are included in the four principles of Lamarckism?

- A. Formation of rudimentary organs
- B. Direct environment and new desire
- C. Genetic drift
- D. Inheritance of acquired characters

Choose the correct answer from the options given below:

- (A) A and D only
- (B) A, B and D only
- (C) B, C and D only
- (D) A, B and C only

Correct Answer: (B) A, B and D only

Solution:

Step 1: Understanding the Concept:

The question asks to identify the core principles of Lamarckism, the evolutionary theory proposed by Jean-Baptiste Lamarck in the early 19th century. This theory provided an alternative

mechanism for evolution to Darwin's later theory of natural selection.

Step 2: Detailed Explanation:

Let's evaluate each option against the tenets of Lamarck's theory:

- **A. Formation of rudimentary organs:** This is a direct consequence of Lamarck's second law, the principle of "Use and Disuse." He argued that organs that were frequently used would become more developed, while those that were not used would atrophy and become rudimentary. This is part of his theory.
- **B. Direct environment and new desire:** This was Lamarck's first law. He posited that changes in the environment would create a new "need" or "desire" (*le besoin*) within an organism, which would compel it to change its habits and, over time, its physical structure. This is a foundational principle of his theory.
- **C. Genetic drift:** This concept describes random changes in allele frequencies within a population's gene pool. It is a key mechanism of modern evolutionary theory and was unknown in Lamarck's time. It is not part of Lamarckism.
- **D. Inheritance of acquired characters:** This is the most famous and central principle of Lamarck's theory. It states that the modifications an organism acquires during its lifetime through use, disuse, or environmental influence are directly passed on to its offspring.

Step 3: Final Answer:

The key principles of Lamarckism are the influence of the environment creating a new desire (B), the law of use and disuse leading to changes like rudimentary organs (A), and the inheritance of these acquired traits (D). Genetic drift (C) is a component of the modern synthesis, not Lamarckism. Therefore, A, B, and D are the correct choices.

💡 Quick Tip

Remember the core of Lamarckism with the giraffe example: The environment (tall trees) creates a need (to reach leaves), leading to a change (stretched neck through use), and this acquired trait is inherited. Any concept involving modern genetics like "genetic drift" is not Lamarckian.

21. Match the LIST-I with LIST-II

LIST-I (Genetic disease)	LIST-II (Process)
A. Sickle Cell Anemia	I. Penetrance and Expressivity
B. Beta Thalassemia (Major)	II. Heterozygous advantage
C. Huntington's Chorea	III. Pleiotropic effect
D. Phenylketonuria	IV. Lethal gene effect

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-IV, B-I, C-II, D-III
- (C) A-III, B-II, C-I, D-IV
- (D) A-II, B-IV, C-I, D-III

Correct Answer: (D) A-II, B-IV, C-I, D-III

Solution:

Step 1: Understanding the Concept:

This question requires connecting specific genetic disorders to the broader genetic principles they famously illustrate. Each disease serves as a key example for understanding these complex processes.

Step 2: Detailed Explanation:

- **A. Sickle Cell Anemia:** In regions where malaria is endemic, individuals who are heterozygous for the sickle cell allele (carrying one copy) exhibit increased resistance to malaria. This survival benefit is a classic example of **heterozygous advantage**. So, **A matches with II**.
- **B. Beta Thalassemia (Major):** This severe form of anemia occurs when an individual inherits two copies (homozygous) of the mutated beta-globin gene. The condition is so severe that it is often fatal in childhood without medical intervention, illustrating a **lethal gene effect**. So, **B matches with IV**.
- **C. Huntington's Chorea:** This is a dominant genetic disorder. While anyone with the gene will eventually develop the disease (high penetrance), the age at which symptoms begin and the severity of the disease can vary significantly among individuals. This variation in how the gene is expressed is a prime example of variable **penetrance and expressivity**. So, **C matches with I**.
- **D. Phenylketonuria (PKU):** This disorder results from a mutation in a single gene that codes for an enzyme. The lack of this enzyme leads to a wide array of distinct clinical features, such as intellectual disability, fair skin, and seizures. When a single gene mutation produces multiple unrelated phenotypic effects, it is known as a **pleiotropic effect**. So, **D matches with III**.

Step 3: Final Answer:

The correct pairings are: A (Sickle Cell Anemia) with II (Heterozygous advantage), B (Beta Thalassemia Major) with IV (Lethal gene effect), C (Huntington's Chorea) with I (Penetrance and Expressivity), and D (Phenylketonuria) with III (Pleiotropic effect). This corresponds to option (D).

💡 Quick Tip

Associate keywords: Sickle cell ↔ Malaria resistance (heterozygous advantage). Huntington's ↔ Variable age of onset (penetrance/expressivity). PKU ↔ Multiple symptoms from one gene (pleiotropy). Thalassemia Major ↔ Severe/fatal homozygous state (lethal effect).

22. In which marriage, the prospective husband stays in the house of prospective wife and if the marriage is not solemnised, the boy has to pay compensation to the

girl's family?

- (A) Probationary marriage
- (B) Trial marriage
- (C) Marriage by capture
- (D) Marriage by purchase

Correct Answer: (A) Probationary marriage

Solution:

Step 1: Understanding the Concept:

The question describes a specific cultural practice for forming a marriage. The key elements are a pre-marital period of co-residence where the groom lives with the bride's family, an evaluation period, and a formal penalty if the union is not finalized.

Step 2: Detailed Explanation:

- **Probationary marriage:** This term accurately describes a formal arrangement where a prospective groom's suitability as a husband is tested over a period of time. He lives with the bride's family, works for them (a form of bride service), and his character is observed. The existence of a formal compensation clause for not completing the marriage underscores its nature as a binding, probationary period. This aligns perfectly with the question.
- **Trial marriage:** This generally implies a more informal cohabitation between the couple themselves to test compatibility, usually without the formal oversight of the bride's family or a pre-agreed financial penalty for separation.
- **Marriage by capture:** This involves coercion and abduction, which is entirely different from the cooperative, evaluative process described.
- **Marriage by purchase:** This is characterized by the transfer of wealth (bride price) from the groom's family to the bride's family to formalize the union, not a period of service or probation.

Step 3: Final Answer:

The scenario involving a test period for the groom at the bride's home, with a specified penalty for failure to marry, is best defined as a probationary marriage.

 Quick Tip

Focus on the keywords: "stays in the house" (residence), "prospective" (before marriage), and "compensation" (penalty for failure). These elements point to a period of testing or probation, making "Probationary marriage" the most accurate anthropological term.

23. Arrange the following blood group systems in chronological order of their discovery.

- A. ABO
- B. Rh

- C. MNSs
- D. MN

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) A, D, B, C
- (C) B, A, D, C
- (D) C, B, D, A

Correct Answer: (B) A, D, B, C

Solution:

Step 1: Understanding the Concept:

The question requires ordering the discovery of four major human blood group systems based on the historical timeline of scientific breakthroughs in immunology and genetics.

Step 2: Detailed Explanation:

Let's review the discovery dates for each system:

- **A. ABO:** This foundational blood group system was discovered by Karl Landsteiner in Vienna in **1901**, a discovery for which he won the Nobel Prize.
- **D. MN:** Following his initial work, Landsteiner, along with his colleague Philip Levine, discovered the MN blood group system in **1927**.
- **B. Rh:** The clinically significant Rh system was identified next, in **1940**, by Karl Landsteiner and Alexander S. Wiener.
- **C. MNSs:** The original MN system was later understood to be more complex. The related S antigen was discovered in **1947**, effectively expanding the system to MNSs.

Step 3: Final Answer:

Placing these discoveries in the order they occurred gives the following sequence:

1. ABO (1901) - A
2. MN (1927) - D
3. Rh (1940) - B
4. MNSs (1947) - C

Therefore, the correct chronological order is A, D, B, C.

💡 Quick Tip

Remember Karl Landsteiner is the key figure. He discovered ABO first (around 1900), then MN (late 1920s), and then Rh (1940). This covers the basic order of the three most famous systems. MNSs is an expansion of MN, so it must come after MN.

24. Whorls are present in least frequency among:

- (A) Mongoloids
- (B) Micronesians
- (C) Bushmen
- (D) Australian aborigines

Correct Answer: (C) Bushmen

Solution:

Step 1: Understanding the Concept:

The study of fingerprint patterns, or dermatoglyphics, reveals that the frequencies of the three main pattern types (whorls, loops, and arches) vary among global populations. The question asks to identify the population group known for having a particularly low frequency of whorls.

Step 2: Detailed Explanation:

A review of global dermatoglyphic data shows distinct trends:

- A low frequency of one pattern type is often accompanied by a high frequency of another. Whorls and arches often show an inverse relationship in population studies.
- **Mongoloids** (a term for populations from East Asia) typically exhibit one of the highest frequencies of whorls found anywhere in the world.
- **Micronesians** and **Australian aborigines** also generally show high to moderate frequencies of whorls.
- **Bushmen** (San peoples of Southern Africa), along with other Khoisan groups and African Pygmies, are notable in dermatoglyphic literature for having the world's highest frequency of arches. Since arches are globally the rarest pattern, this high frequency comes at the expense of other patterns, resulting in a very low frequency of whorls.

Step 3: Final Answer:

Given their uniquely high frequency of arches, the Bushmen (San) correspondingly have the lowest frequency of whorls among the groups listed.

 Quick Tip

In dermatoglyphics, remember this general trend: East Asians (Mongoloids) often have the highest frequency of whorls. Some African groups, like the Bushmen and Pygmies, have the highest frequency of arches, which means they must have a low frequency of whorls.

25. Which of the following factors produce and redistribute variations?

- A. Mutation
- B. Natural selection
- C. Gene flow
- D. Recombination

Choose the correct answer from the options given below:

- (A) A, C and D only
- (B) A, B and C only
- (C) B and D only
- (D) B, C and D only

Correct Answer: (A) A, C and D only

Solution:

Step 1: Understanding the Concept:

The question asks to identify the evolutionary mechanisms responsible for either creating new genetic variation (*produce*) or shuffling existing variation into new combinations within and between populations (*redistribute*). It is crucial to distinguish these from mechanisms that filter variation.

Step 2: Detailed Explanation:

Let's analyze the role of each factor:

- **A. Mutation:** This is the fundamental source of all new genetic information. By altering the DNA sequence, mutations create new alleles, thereby **producing** novel variation.
- **B. Natural selection:** This is a non-random process that acts on existing variation. It favors the survival and reproduction of individuals with certain traits, which leads to adaptation. Natural selection filters variation but does not create or shuffle it.
- **C. Gene flow:** Also known as migration, this is the movement of genes between populations. It **redistributes** variation by introducing existing alleles from one gene pool into another.
- **D. Recombination:** This process occurs during meiosis when homologous chromosomes exchange segments (crossing over). It shuffles existing alleles into new combinations on the chromosomes, thus **redistributing** variation within a population.

Step 3: Final Answer:

Mutation (A) is the producer of new variation. Gene flow (C) and Recombination (D) are redistributors of existing variation. Natural selection (B) is a sorting mechanism, not a source. Therefore, the correct factors are A, C, and D.

 Quick Tip

To remember the evolutionary forces, categorize them:

- **Creates new variation:** Mutation
- **Shuffles/Redistributes variation:** Recombination, Gene Flow
- **Filters/Changes frequencies of variation:** Natural Selection, Genetic Drift

26. Upper palaeolithic culture in India is dominated by:

- (A) Burins
- (B) Backed blades
- (C) Awls
- (D) Points

Correct Answer: (B) Backed blades

Solution:

Step 1: Understanding the Concept:

The Upper Palaeolithic period is defined by a significant shift in lithic technology towards the efficient production of blades from prepared cores. The question asks for the most characteristic or dominant tool type within this technological framework in the context of the Indian subcontinent.

Step 2: Detailed Explanation:

The Upper Palaeolithic industries in India are fundamentally blade-based. Long, slender blades were produced in large numbers and then modified to create a variety of specialized tools.

- **Burins:** These are indeed a key tool, used for engraving bone, antler, and wood. They are an important part of what is often called the "blade and burin" complex of the Upper Palaeolithic.

- **Backed blades:** This category refers to blades where one longitudinal edge has been intentionally blunted through retouching. This "backing" allows the tool to be held or hafted without cutting the user. In many Indian Upper Palaeolithic assemblages, backed blades and similar backed microliths are found in very high proportions, making them a defining and dominant feature of the culture.

- **Awls and Points:** These tools were also made on blades and flakes for piercing and as projectile tips. While present and important, they do not typically dominate the assemblages to the same extent as backed blades.

Step 3: Final Answer:

Although burins are a critical component, the sheer quantity and variety of backed blades in Indian Upper Palaeolithic sites suggest that this tool type was the most dominant and characteristic product of the blade technology of the period.

 Quick Tip

Remember the progression of Palaeolithic technology: Lower Palaeolithic is about core tools (choppers, hand-axes), Middle Palaeolithic is about flake tools (Mousterian), and Upper Palaeolithic is about blade tools. In India, the backed blade is a key diagnostic type for the Upper Palaeolithic.

27. Micoquian is a :

- (A) Blade
- (B) Hand-axe
- (C) Chopper
- (D) Scraper

Correct Answer: (B) Hand-axe

Solution:

Step 1: Understanding the Concept:

The term "Micoquian" refers to a specific archaeological industry from the Stone Age. The question asks to identify the type of artifact that defines this industry.

Step 2: Detailed Explanation:

- The Micoquian is a lithic industry found in Europe during the late Lower Palaeolithic and early Middle Palaeolithic periods (roughly 130,000 to 60,000 years ago). It is named after the type-site of La Micoque in France.
- It is considered a late and specialized manifestation of the broader Acheulean tradition. The defining characteristic of the Acheulean is the biface, or hand-axe.
- The Micoquian industry is specifically distinguished by the production of a particular form of finely-worked, often asymmetrical **hand-axe**. These Micoquian hand-axes are noted for their sharp, thinned tips and thick, heavy bases.
- The other options are incorrect: Blades are typical of the Upper Palaeolithic, choppers define the much earlier Oldowan, and scrapers are a common tool type found across many periods but do not define the Micoquian.

Step 3: Final Answer:

The Micoquian is an archaeological industry whose signature artifact is a distinct and refined type of hand-axe.

 Quick Tip

Many Palaeolithic industries are named after a type site and are defined by a specific type of tool. Micoquian is a key term for the transitional period between the Lower and Middle Palaeolithic in Europe, and its signature tool is a refined, late-Acheulean style of hand-axe.

28. In which of the following approaches, the analytical conclusions are drawn from the pre-existing themes?

- (A) Inductive approach
- (B) Deductive approach
- (C) Hypothetical approach
- (D) Facts based

Correct Answer: (B) Deductive approach

Solution:

Step 1: Understanding the Concept:

The question describes a mode of scientific reasoning where the starting point is a general principle, theory, or "pre-existing theme." The goal is to identify the formal name for this type of logical approach.

Step 2: Detailed Explanation:

- **Inductive approach:** This is a "bottom-up" logic. A researcher starts with specific observations and data, identifies patterns, and from these, constructs a general hypothesis or theory.
- **Deductive approach:** This is a "top-down" logic. It begins with a general statement, theory, or "pre-existing theme." From this general principle, the researcher formulates a specific, testable hypothesis. Conclusions are then drawn by testing this hypothesis against specific observations. This perfectly matches the process of drawing conclusions from pre-existing themes.
- **Hypothetical approach:** A hypothesis is a component of the scientific method, particularly central to deductive reasoning, but it is not the name of the overall logical approach itself.
- **Facts based:** While all scientific reasoning strives to be based on facts (data), this term does not describe a specific direction of logical inference like deduction or induction.

Step 3: Final Answer:

The approach that begins with pre-existing themes or general theories to derive specific conclusions is the deductive approach.

 Quick Tip

Remember the difference: **Deductive** reasoning starts with a general theory and moves **Down** to a specific conclusion. **Inductive** reasoning starts with specific observations and moves **Inward** to form a general theory.

29. Who among the following used the comparative method as a method for the first time in 1889?

- (A) E.B. Tylor
- (B) Franz Boas
- (C) Margaret Mead
- (D) Ruth Benedict

Correct Answer: (A) E.B. Tylor

Solution:

Step 1: Understanding the Concept:

The question asks to identify the pioneering anthropologist who presented a formal, systematic

application of the comparative method in the specific year of 1889. This method was central to 19th-century evolutionary anthropology.

Step 2: Detailed Explanation:

- **E.B. Tylor:** As a leading figure of the British school of cultural evolutionism, Tylor was a primary architect of the comparative method. In **1889**, he presented a landmark paper titled "On a Method of Investigating the Development of Institutions." In this work, he used cross-cultural data and statistical correlations to systematically compare practices like marriage and descent rules across different societies, aiming to uncover universal laws of cultural development. This 1889 presentation is considered a foundational moment in the formal application of this method in anthropology.

- **Franz Boas:** Boas rose to prominence later and was a major critic of the sweeping generalizations of the comparative method as practiced by Tylor. He argued for historical particularism, not universal stages of evolution.

- **Margaret Mead and Ruth Benedict:** Both were prominent 20th-century anthropologists and students of Boas. Their careers began long after 1889.

Step 3: Final Answer:

E.B. Tylor is specifically associated with the formal, statistical application of the comparative method in his influential 1889 paper.

💡 Quick Tip

Associate the 19th-century "armchair anthropologists" like Tylor with the grand comparative method and cultural evolutionism. Associate Boas and his students (Mead, Benedict) with the 20th-century critique of this method and the focus on fieldwork and cultural relativism.

30. The oldest stone tools (approximately 3000 in number) were discovered at-

- (A) Olduvai Gorge, Tanzania
- (B) Peninj River, Tanzania
- (C) Gona, Ethiopia
- (D) Torralba and Ambrona, Spain

Correct Answer: (C) Gona, Ethiopia

Solution:

Step 1: Understanding the Concept:

The question asks to identify the archaeological site where the oldest known large collection of stone tools was discovered. This refers to the earliest evidence of the Oldowan tool industry.

Step 2: Detailed Explanation:

- **Olduvai Gorge, Tanzania:** This is a famous site where the Leakeys' work established the

importance of the Oldowan industry. However, subsequent discoveries at other locations have yielded even older tools.

- **Peninj River, Tanzania:** This site is known for later Acheulean tools, not the earliest Oldowan.

- **Gona, Ethiopia:** Archaeological research in the Gona region of Ethiopia led to the discovery of a massive assemblage (over 3,000 artifacts) of stone tools. These artifacts were securely dated to approximately **2.6 million years ago**, making them, for many years, the definitive evidence for the world's oldest manufactured stone tools. While even older tools (Lomekwian) have since been found in Kenya, Gona remains the classic site for the oldest large collection of *Oldowan* tools.

- **Torralba and Ambrona, Spain:** These are much younger European sites, dating to the Middle Pleistocene, and are not relevant to the earliest stone tool discoveries.

Step 3: Final Answer:

Among the given options, Gona, Ethiopia, is the correct answer as it is the site where the oldest large assemblage of Oldowan stone tools, dated to 2.6 million years ago, was discovered.

💡 Quick Tip

For questions about the "oldest" artifacts, think of the East African Rift Valley, particularly Ethiopia and Kenya. Gona (Ethiopia) is the classic answer for the oldest Oldowan tools, while Lomekwi (Kenya) is the more recent discovery of an even older, pre-Oldowan industry.

31. Harold Conklin, is associated with which of the following?

- A. Power
- B. Ifugao
- C. Indigenous agriculture
- D. Economy

Choose the correct answer from the options given below:

- (A) A, B and D only
- (B) A, B and C only
- (C) B, C and D only
- (D) A, C and D only

Correct Answer: (C) B, C and D only

Solution:

Step 1: Understanding the Concept:

The question asks to identify the primary research themes and ethnographic focus of the anthropologist Harold Conklin. This requires familiarity with his major contributions to ecological anthropology and ethnoscience.

Step 2: Detailed Explanation:

Harold Conklin was a highly influential anthropologist whose work is defined by several key areas:

- **B. Ifugao:** Conklin's most famous and long-term ethnographic research was conducted among the **Ifugao** people of the Philippines. His detailed study of their society is a classic of anthropological literature.
- **C. Indigenous agriculture:** A central focus of Conklin's work was ethnoecology—the study of local, indigenous systems of knowledge about the environment. He meticulously documented the complex and sophisticated systems of **indigenous agriculture**, particularly the Ifugao's renowned terraced wet-rice cultivation.
- **D. Economy:** The study of how a society produces, manages, and sustains itself through agriculture is fundamentally a study of its **economy**. Conklin's work is a masterclass in analyzing the intricate economic and ecological relationships within a traditional society.
- **A. Power:** While Conklin's ethnography would have implicitly touched on social structures, his primary theoretical focus was not on political systems or the dynamics of "Power" in the way that a political anthropologist's would be. His main contributions lie elsewhere.

Step 3: Final Answer:

Harold Conklin is most directly associated with his work on the Ifugao (B), their indigenous agriculture (C), and the related economic systems (D).

💡 Quick Tip

Associate Harold Conklin with three things: the Philippines (specifically the Ifugao), rice terraces (indigenous agriculture), and ethnoecology (the study of local environmental knowledge).

32. Pear-shaped, tongue-shaped and oval-shaped hand-axes are commonly seen in which culture?

- (A) Abbevillian
- (B) Pre-Chellean
- (C) Acheulean
- (D) Clactonian

Correct Answer: (C) Acheulean

Solution:

Step 1: Understanding the Concept:

The question asks to identify the prehistoric stone tool culture that is defined by the presence of well-made hand-axes with specific, refined shapes.

Step 2: Detailed Explanation:

Let's analyze the toolkits of the given cultures:

- **Abbevillian:** An older term for the earliest phase of the Acheulean. Its hand-axes are generally thick, crude, and have irregular edges, lacking the refinement of the shapes mentioned.
- **Pre-Chellean:** An obsolete and unused term in modern archaeology.
- **Acheulean:** This Lower Palaeolithic industry, spanning over a million years, is fundamentally defined by the hand-axe. Over time, Acheulean technology progressed from crude bifaces to highly symmetrical and skillfully crafted tools. The classic, well-developed forms of these hand-axes are described using terms like **pear-shaped**, **oval-shaped (ovate)**, and **tongue-shaped (lanceolate)**. This is the correct association.
- **Clactonian:** A Lower Palaeolithic industry known for producing large, thick flakes from cores. A defining feature of the Clactonian is the complete absence of hand-axes.

Step 3: Final Answer:

The specified forms—pear-shaped, tongue-shaped, and oval-shaped—are classic descriptors for the refined bifaces that characterize the Acheulean culture.

💡 Quick Tip

Remember this simple distinction for the Lower Palaeolithic: Oldowan = choppers. Acheulean = hand-axes. Clactonian = flakes and choppers, NO hand-axes. The detailed shapes (pear, oval) point directly to the classic Acheulean toolkit.

33. Match LIST-I with LIST-II

LIST-I (Dating method)	LIST-II (Sample type)
A. Oxygen 16/18 technique	I. Lavas, tuffs
B. Radiocarbon (C-14) Dating	II. Pottery
C. Potassium-Argon method	III. Deep-sea cores
D. Thermoluminescence method	IV. Charcoal, wood, bone and shell

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-I, B-III, C-II, D-IV
- (C) A-III, B-IV, C-I, D-II
- (D) A-III, B-IV, C-II, D-I

Correct Answer: (C) A-III, B-IV, C-I, D-II

Solution:

Step 1: Understanding the Concept:

This question requires matching specific scientific techniques with the types of materials for which they are best suited. Each method relies on a different physical or chemical principle.

Step 2: Detailed Explanation:

- **A. Oxygen 16/18 technique:** This method analyzes the ratio of stable oxygen isotopes

(^{18}O to ^{16}O) trapped in the shells of microorganisms found in **deep-sea cores** or ice cores. It is a tool for reconstructing past climates, not for direct dating. So, **A matches with III**.

- **B. Radiocarbon (C-14) Dating:** This technique measures the decay of the radioactive isotope Carbon-14 in formerly living organisms. It is only applicable to organic samples such as **charcoal, wood, bone, and shell**. So, **B matches with IV**.

- **C. Potassium-Argon method:** This radiometric method dates geological formations by measuring the decay of Potassium-40 into Argon-40 gas, which becomes trapped in the crystal lattice of minerals upon cooling. It is exclusively used for volcanic materials like **lavas and tuffs**. So, **C matches with I**.

- **D. Thermoluminescence (TL) method:** This technique dates materials that were fired in the past. It measures the accumulated radiation dose since the last heating event. It is most commonly applied to fired clay artifacts like **pottery**. So, **D matches with II**.

Step 3: Final Answer:

The correct associations are A-III, B-IV, C-I, and D-II, which corresponds to option (C).

💡 Quick Tip

Associate methods with materials: C-14 for anything once living (organic). K-Ar for volcanic rock. Thermoluminescence for things that were fired (pottery, burnt flint). Oxygen Isotope for climate data from deep sea or ice cores.

34. McKim Marriot gave the concept of universalization and parochialization in his work on

- (A) Gaya
- (B) Rampura
- (C) Kishangarhi
- (D) Shivapura

Correct Answer: (C) Kishangarhi

Solution:

Step 1: Understanding the Concept:

The question asks for the specific ethnographic location where anthropologist McKim Marriott developed his seminal concepts of "universalization" and "parochialization" to explain the dynamics of religion and culture in Indian civilization.

Step 2: Detailed Explanation:

- Marriott's concepts describe a two-way process of interaction between the "Great Tradition" (pan-Indian, Sanskritic) and the numerous "Little Traditions" (local, folk). **Universalization** is the upward movement of local traditions into the Great Tradition, while **parochialization** is the downward adaptation of Great Tradition elements into a local context.

- This theoretical framework was the direct result of Marriott's intensive fieldwork during the 1950s. The specific village he studied, and which formed the empirical basis for his theory, was **Kishangarhi** in Uttar Pradesh.
- His analysis was famously presented in his essay "Little Communities in an Indigenous Civilization," a cornerstone of Indian anthropology.

Step 3: Final Answer:

The village study that provided the foundation for McKim Marriott's concepts of universalization and parochialization was Kishangarhi.

💡 Quick Tip

When you see the terms "universalization" and "parochialization" or "Great and Little Traditions" in the context of Indian anthropology, the key scholar to remember is McKim Marriott, and his fieldsite is Kishangarhi.

35. Star-shaped borer is a characteristic tool of _____ culture.

- (A) Abbevillian
- (B) Magdalenian
- (C) Solutrean
- (D) Perigordian

Correct Answer: (B) Magdalenian

Solution:

Step 1: Understanding the Concept:

The question asks to identify the specific Upper Palaeolithic culture associated with a highly distinctive and specialized stone artifact known as a "star-shaped borer."

Step 2: Detailed Explanation:

- The Upper Palaeolithic in Europe is divided into several successive cultures, each with a characteristic toolkit.
- **Magdalenian:** This final culture of the Upper Palaeolithic is known for its highly developed bone and antler industry (harpoons, spear-throwers) and a sophisticated stone tool technology. One of its most unique and diagnostic lithic artifacts, particularly from the later phases, is the "star-shaped borer" (*bec étoilé*), a multiple-pointed drill demonstrating exceptional flint-knapping skill.
- The other cultures are known for different technologies: - **Abbevillian** is a much older Lower Palaeolithic culture. - **Solutrean** is famed for its exquisitely made, thin, leaf-shaped points. - **Perigordian** (or Gravettian) is characterized by backed blades and Gravette points.

Step 3: Final Answer:

The star-shaped borer is a specialized tool that serves as a hallmark of the advanced technological capabilities of the Magdalenian culture.

💡 Quick Tip

For European Upper Palaeolithic cultures, associate them with their most famous artifacts: Aurignacian (split-base bone points), Gravettian/Perigordian (small backed blades, "Venus" figurines), Solutrean (beautiful leaf-points), and Magdalenian (harpoons and star-shaped borers).

36. Which of the following is not an elongated type of handaxe?

- (A) Lanceolate
- (B) Cordiform
- (C) Micoquian
- (D) Ficron

Correct Answer: (B) Cordiform

Solution:

Step 1: Understanding the Concept:

This question deals with the typology of Acheulean handaxes, which are classified based on their overall shape and proportions. The key distinction to be made is between forms that are long and narrow versus those that are broader.

Step 2: Detailed Explanation:

Let's analyze the shapes described by these terms:

- **Lanceolate:** This term describes a handaxe that is shaped like the head of a lance—long, narrow, and tapering to a sharp point. It is by definition an elongated form.
- **Cordiform:** This term means "heart-shaped." A cordiform handaxe is relatively wide, with a broad base and straight or convex sides that converge to a point. Its proportions are not considered elongated.
- **Micoquian:** This is a specific type of late Acheulean handaxe known for its elongated, often asymmetrical shape with a finely worked, slender point.
- **Ficron:** This is another type of elongated handaxe, typically characterized by a narrow, drawn-out point and a thick, often unworked base.

Step 3: Final Answer:

While lanceolate, Micoquian, and ficron types are all defined by their elongated proportions, the cordiform handaxe is defined by its broader, heart-like shape. Therefore, it is not an elongated type.

💡 Quick Tip

Associate the Latin/French roots with the shapes: *Lanceolate* = lance (long and pointed), *Cordiform* = heart (broad), *Ficron* = a type of long point. This helps differentiate the forms.

37. Match the LIST-I with LIST-II

LIST-I (Concept)	LIST-II (Pioneer)
A. Nature-man-spirit complex	I. Surjeet Sinha
B. Great and Little tradition	II. M. N. Srinivas
C. Tribe-caste continuum	III. L. P. Vidyarthi
D. Dominant caste	IV. Robert Redfield

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-I, B-III, C-II, D-IV
- (C) A-III, B-IV, C-II, D-I
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (D) A-III, B-IV, C-I, D-II

Solution:

Step 1: Understanding the Concept:

The task is to correctly associate four influential concepts from the sociology and social anthropology of India with the scholars who are credited with developing them.

Step 2: Detailed Explanation:

- **A. Nature-man-spirit complex:** This ecological concept, which views culture as an integration of the natural environment, social organization, and the belief system, was proposed by **L. P. Vidyarthi** based on his study of the Maler tribe. So, **A matches with III.**
- **B. Great and Little tradition:** This conceptual framework for analyzing civilizations was originally developed by American anthropologist **Robert Redfield** and later applied to India by scholars like McKim Marriott. So, **B matches with IV.**
- **C. Tribe-caste continuum:** This concept, which posits that tribes and castes in India are not separate categories but exist on a continuous spectrum of social organization, was formulated by **Surjeet Sinha**. So, **C matches with I.**
- **D. Dominant caste:** This influential concept, defining a caste that holds numerical, economic, and political power at the local level, was introduced by **M. N. Srinivas** in his studies of village India. So, **D matches with II.**

Step 3: Final Answer:

The correct pairings are A-III, B-IV, C-I, and D-II, which corresponds to option (D).

 Quick Tip

Create flashcards or a simple table to link major Indian sociologists/anthropologists (Srinivas, Vidyarthi, Sinha, etc.) with their one or two most famous concepts. This is a very common type of question in competitive exams.

38. Bolas are from:

- (A) Palaeolithic
- (B) Mesolithic
- (C) Neolithic
- (D) Chalcolithic

Correct Answer: (A) Palaeolithic

Solution:

Step 1: Understanding the Concept:

The question asks to identify the archaeological period associated with the use of the bola. A bola is a hunting weapon consisting of weights attached to cords, designed to entangle the legs of animals. In the archaeological record, the evidence for this tool consists of the stone weights, often called bola stones.

Step 2: Detailed Explanation:

- The use of bolas is a hunting strategy primarily associated with open environments and the pursuit of medium-to-large game animals, a key feature of life during the **Palaeolithic**.
- Archaeologists have discovered spheroidal stones, often in sets of three, at various Lower and Middle Palaeolithic sites across the Old World. These are widely interpreted as the stone weights used for bolas.
- Later periods are characterized by different hunting technologies. The Mesolithic is known for microlith-tipped arrows for smaller game, and the Neolithic and Chalcolithic periods saw a shift towards agriculture, although hunting continued with different toolkits.

Step 3: Final Answer:

The bola as a hunting implement is a technology that is archaeologically associated with the Palaeolithic period.

 Quick Tip

Associate tool types with their periods. Palaeolithic is known for hunting large animals, so tools like bolas fit this context. Mesolithic is about adapting to smaller game with microliths. Neolithic is about farming tools.

39. Which of the following techniques ensure a systematic way of tracing the line of descent?

- (A) Genealogy
- (B) Focus Group Discussion
- (C) Pedigree
- (D) Participant Observation

Correct Answer: (A) Genealogy

Solution:

Step 1: Understanding the Concept:

The question asks to identify the specific research method designed for systematically recording and analyzing kinship ties and lines of ancestry within a society.

Step 2: Detailed Explanation:

- **Genealogy (The Genealogical Method):** This is the correct term for the formal and systematic process used by anthropologists to collect data on kinship. It involves interviewing informants to record their family history, including all known ancestors, descendants, and collateral relatives, along with the social relationships that define their connections. This method is the foundation for understanding descent systems.
- **Focus Group Discussion:** This is a method for gathering qualitative data on a specific topic from a group of people at once; it is not designed for tracing individual lines of descent.
- **Pedigree:** A pedigree is the diagram or chart that is produced as a result of genealogical research. It is the output, not the data collection technique itself.
- **Participant Observation:** This is the overarching research strategy in ethnography, where a researcher lives within a community. The genealogical method is a specific technique that is employed *during* participant observation.

Step 3: Final Answer:

The specific technique for the systematic tracing of descent is the genealogical method, or genealogy.

💡 Quick Tip

Remember W.H.R. Rivers and the Torres Strait Expedition. This is where the genealogical method was formally established as a cornerstone of anthropological fieldwork for understanding social structure.

40. Match LIST-I with LIST-II

LIST-I (Archaeological site)	LIST-II (River/river basin)
A. Mitathal	I. Ghaggar
B. Kalibangan	II. Gulf of Cambay
C. Rangpur	III. Yamuna
D. Lothal	IV. Sukha Bhadar

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-II, B-III, C-I, D-IV
- (C) A-I, B-II, C-IV, D-III
- (D) A-III, B-I, C-IV, D-II

Correct Answer: (D) A-III, B-I, C-IV, D-II

Solution:

Step 1: Understanding the Concept:

The question requires matching prominent archaeological sites of the Indus Valley Civilization with their correct geographical location in relation to a river or major body of water.

Step 2: Detailed Explanation:

- **A. Mitathal:** Located in Haryana, this Harappan site is situated in the drainage basin of the **Yamuna** river, representing an eastern outpost of the civilization. So, **A matches with III.**
- **B. Kalibangan:** This important Harappan city in Rajasthan is located on the banks of the now-extinct **Ghaggar** river, which is often identified as the ancient Sarasvati. So, **B matches with I.**
- **C. Rangpur:** This site in Gujarat is situated on the banks of the **Sukha Bhadar** river, providing crucial evidence for the late Harappan phase in the Saurashtra region. So, **C matches with IV.**
- **D. Lothal:** A famous Harappan port city in Gujarat, Lothal was connected via the Sabarmati river system to the **Gulf of Cambay**, which gave it access to maritime trade routes. So, **D matches with II.**

Step 3: Final Answer:

The correct geographical pairings are A-III, B-I, C-IV, and D-II, which corresponds to option (D).

💡 Quick Tip

When studying Harappan sites, create a map or a table that lists the site, its location (modern state), and the associated river. Key sites like Kalibangan (Ghaggar), Lothal (Gulf of Cambay), Mohenjo-Daro (Indus), and Harappa (Ravi) are frequently asked.

41. Match the LIST-I with LIST-II

LIST-I (Social process)	LIST-II (Social System/Concept)
A. Parochialization	I. Jajmani System
B. Open Status System	II. Sanskritization
C. Service Caste	III. Great Traditions
D. Dominant Caste	IV. Modernization

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-IV, B-I, C-II, D-III
- (C) A-III, B-II, C-I, D-IV
- (D) A-II, B-IV, C-I, D-III

Correct Answer: (C) A-III, B-II, C-I, D-IV

Solution:

Step 1: Understanding the Concept:

This question asks to link specific sociological processes or roles with the larger conceptual frameworks or social systems they are a part of or related to.

Step 2: Detailed Explanation:

- **A. Parochialization:** This process is defined by McKim Marriott as the downward filtering and reinterpretation of elements from the literate, pan-Indian **Great Traditions** into a local, folk context. So, **A matches with III.**
- **C. Service Caste:** In village India, the role of a **Service Caste** (e.g., barber, potter) is defined by its participation in a traditional system of reciprocal, non-monetary exchange of goods and services with landowning patrons. This entire network of relationships is called the **Jajmani System**. So, **C matches with I.**
- **B. Open Status System:** While the caste system is traditionally considered closed, M.N. Srinivas's concept of **Sanskritization** describes a process through which lower castes can achieve upward mobility by adopting the customs of higher castes. This process thus introduces an element of openness or fluidity into the status system. So, **B matches with II.**
- **D. Dominant Caste:** The power of a **Dominant Caste** is not solely based on traditional ritual status. Its influence can be significantly enhanced by secular factors associated with **Modernization**, such as access to western education, positions in government, and success in electoral politics. So, **D matches with IV.**

Step 3: Final Answer:

Following this logic, the correct pairings are A-III, C-I, B-II, and D-IV. This corresponds to option (C).

💡 Quick Tip

Break down the matches into pairs you are certain about. For instance, 'Service Caste' is almost synonymous with the 'Jajmani System', and 'Parochialization' is defined in relation to 'Great Traditions'. Use these certain pairs to eliminate incorrect options quickly.

42. Simultaneous presence of Sickle cell anemia and *P. falciparum* malaria is an example of _____.

- (A) Directional selection
- (B) Normalizing selection
- (C) Balancing selection
- (D) Neutral selection

Correct Answer: (C) Balancing selection

Solution:

Step 1: Understanding the Concept:

The question presents the classic case of the sickle-cell allele's persistence in human populations despite causing a severe disease. This scenario requires identifying the specific mode of natural selection that explains this phenomenon.

Step 2: Detailed Explanation:

In environments where *P. falciparum* malaria is prevalent, there are three main genotypes with different fitness levels: - Homozygous normal (AA): Susceptible to malaria. - Homozygous sickle-cell (SS): Suffers from severe sickle-cell anemia. - Heterozygous (AS): Protected from severe malaria and largely unaffected by anemia. Because the heterozygous individuals (AS) have a higher survival and reproductive advantage than either of the homozygous individuals (AA or SS), natural selection actively maintains both the A and S alleles in the population. This process, where the heterozygote is favored and multiple alleles are kept in a stable equilibrium, is the definition of **balancing selection** (specifically, a form called heterozygote advantage).

Step 3: Final Answer:

The interaction between sickle-cell anemia and malaria, where the heterozygote has the highest fitness, is the textbook example of balancing selection.

💡 Quick Tip

Remember the sickle-cell and malaria connection as the number one example of "heterozygote advantage," which is a form of "balancing selection." The key idea is that selection is maintaining a balance of both the normal and the sickle-cell alleles in the population.

43. Which of the following statements are correct?

- A. Anthropology is an experimental science.
- B. Anthropology is a field science.
- C. Anthropology is a natural science.
- D. Anthropology is an observational science.

Choose the correct answer from the options given below:

- (A) A, B and D only
- (B) A, B and C only
- (C) A, C and D only
- (D) B, C and D only

Correct Answer: (D) B, C and D only

Solution:

Step 1: Understanding the Concept:

The question asks to evaluate several descriptions of the discipline of anthropology to determine which ones accurately characterize its nature and methodologies. Anthropology is a holistic discipline with diverse subfields.

Step 2: Detailed Explanation:

Let's assess each statement:

- **A. Anthropology is an experimental science:** This is largely inaccurate. The primary methods of anthropology, especially in its socio-cultural subfield, do not involve controlled experiments on human societies due to profound ethical and practical complexities.
- **B. Anthropology is a field science:** This is a core identity of the discipline. Whether it involves ethnographic fieldwork in a community, an archaeological excavation, or primatological study in a natural habitat, research is predominantly conducted "in the field."
- **C. Anthropology is a natural science:** This statement is correct because a major subdiscipline, biological (or physical) anthropology, is firmly rooted in the natural sciences, employing principles from biology, genetics, and anatomy to study human evolution and variation.
- **D. Anthropology is an observational science:** This is also correct. The discipline's methodologies, from participant observation in ethnography to the analysis of material remains in archaeology, are fundamentally based on systematic and rigorous observation.

Step 3: Final Answer:

Anthropology is accurately described as a field science (B), a natural science (due to its biological subfield) (C), and an observational science (D). It is generally not considered an experimental science (A). Thus, the correct combination is B, C, and D.

💡 Quick Tip

Think of anthropology's four-field approach: cultural, archaeological, linguistic, and biological. This helps you remember its diverse nature. It's a field science (all subfields), observational (all subfields), a social science (cultural), and a natural science (biological). The only thing it generally is not is an experimental science.

44. Select the correct sequence based on increasing cranial capacity.

- A. *Homo sapiens*
- B. *Homo floresiensis*
- C. *Homo habilis*
- D. *Homo erectus*

Choose the correct answer from the options given below:

- (A) B, C, D, A
- (B) D, B, C, A
- (C) B, A, D, C
- (D) C, B, D, A

Correct Answer: (A) B, C, D, A

Solution:

Step 1: Understanding the Concept:

The question requires arranging four hominin species in ascending order of their average brain size (cranial capacity). This tests knowledge of the general trend of encephalization (brain size increase) in human evolution.

Step 2: Detailed Explanation:

Let's review the approximate average cranial capacities for each species:

- **B. *Homo floresiensis*:** Famously known as "the Hobbit," this species had an exceptionally small brain, averaging around 400 cm³, likely due to insular dwarfism.
- **C. *Homo habilis*:** An early member of our genus, *H. habilis* had an average brain size of about 600-650 cm³, a notable increase from earlier australopithecines.
- **D. *Homo erectus*:** This species represents a major step in encephalization, with a brain size that averages around 900-1100 cm³.
- **A. *Homo sapiens*:** Modern humans have the largest average cranial capacity of the group, at approximately 1350 cm³.

Step 3: Final Answer:

Ordering these species from the smallest to the largest cranial capacity yields the sequence: *Homo floresiensis* (B), followed by *Homo habilis* (C), then *Homo erectus* (D), and finally *Homo sapiens* (A). The correct sequence is B, C, D, A.

💡 Quick Tip

Remember the general evolutionary sequence and the trend of increasing brain size: *H. habilis* → *H. erectus* → *H. sapiens*. *H. floresiensis* ("The Hobbit") is the exception, with a tiny brain due to island dwarfism, making it the smallest in this list.

45. Which of the following are megalithic structures?

- A. Cromlech
- B. Topi kal
- C. Hood-stone
- D. Stambha

Choose the correct answer from the options given below:

- (A) A, B and D only
- (B) A, B and C only
- (C) A, C and D only
- (D) B, C and D only

Correct Answer: (B) A, B and C only

Solution:

Step 1: Understanding the Concept:

The term "megalithic" refers to a category of prehistoric monuments constructed from large stones (*mega* + *lithos*). The question asks to identify which of the listed structures belong to this archaeological category.

Step 2: Detailed Explanation:

- **A. Cromlech:** This is a term used for a megalithic monument consisting of a circle of standing stones, such as Stonehenge. It is a quintessential megalithic structure.
- **B. Topi kal:** A "hat stone" in the local language, this is a specific type of megalithic tomb from the Iron Age of Kerala, South India, characterized by a hemispherical capstone. It is a recognized megalithic type.
- **C. Hood-stone (Kudakallu):** An "umbrella stone," this is another distinctive megalithic burial monument found in Kerala, consisting of a large, mushroom-shaped capstone supported by smaller stones. It is also a recognized megalithic type.
- **D. Stambha:** This is a Sanskrit term for a pillar or column. While monumental stone pillars like the Ashokan Stambhas are significant, they belong to the historical period of Indian architecture and are not classified as part of the prehistoric megalithic tradition.

Step 3: Final Answer:

Cromlech, Topi kal, and Hood-stone are all valid examples of megalithic structures from prehistoric cultural contexts. A Stambha, while a stone monument, belongs to a later historical period. Therefore, A, B, and C are the correct options.

 Quick Tip

Remember that "megalithic" usually refers to a specific prehistoric cultural phenomenon involving large stones for tombs and monuments. While later historical structures can be large and stone-built (like a Stambha), they are not part of the "megalithic culture." Note the specific South Indian examples: Topi kal and Kudakallu (Hood-stone).

46. Which one of the following is not a characteristic of social structure?

- (A) Abstraction of empirical reality
- (B) Spatial dimensions
- (C) Continuity
- (D) Objectivity

Correct Answer: (B) Spatial dimensions

Solution:

Step 1: Understanding the Concept:

The question asks to identify which option does not represent a core feature of the sociological concept of "social structure." Social structure refers to the underlying, patterned network of social relationships and institutions that shape a society.

Step 2: Detailed Explanation:

- **(A) Abstraction of empirical reality:** This is a fundamental characteristic. Social structure is not the visible chaos of daily life but a conceptual model that sociologists build by abstracting the recurring patterns and regularities from that empirical reality.
- **(C) Continuity:** Social structures are defined by their durability and persistence over time. Institutions like family, economy, and government provide a stable framework for social life that outlasts the individuals within them.
- **(D) Objectivity:** From a structuralist perspective (e.g., Durkheim, Radcliffe-Brown), social structure is treated as an objective reality. It exists externally to any single individual and exerts a constraining influence on their actions and thoughts.
- **(B) Spatial dimensions:** This is not a defining characteristic. Social structure is a system of relationships, not a physical object with length, width, or height. While social interactions occur in space, the structure itself (e.g., a class hierarchy or a kinship system) is an abstract, non-spatial pattern.

Step 3: Final Answer:

While abstraction, continuity, and objectivity are all considered key attributes of social structure, spatial dimensions are not. The concept is relational and abstract, not physical.

💡 Quick Tip

Think of social structure as the "scaffolding" or "blueprint" of society. A blueprint is an abstraction (A), it's meant to be durable (C), and it exists as an objective plan separate from the builders (D). The blueprint itself doesn't have physical dimensions like the final building (B).

47. Match LIST-I with LIST-II

LIST-I (Distribution/Concept)	LIST-II (Statistical test)
A. Mean	I. Mann-Whitney test
B. Proportion	II. Chi square
C. Median	III. t-test
D. Goodness of fit	IV. Relative risk

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-II, B-III, C-IV, D-I
- (C) A-IV, B-II, C-I, D-III
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (D) A-III, B-IV, C-I, D-II

Solution:

Step 1: Understanding the Concept:

The question requires matching different statistical measures or concepts with the specific statistical test or calculation that is used to analyze or derive them.

Step 2: Detailed Explanation:

- **A. Mean:** The **t-test** is a common inferential statistic used to determine if there is a significant difference between the means of two groups. Thus, it is the test used for analyzing means. So, **A matches with III.**
- **B. Proportion:** **Relative risk** is a ratio of two proportions: the proportion of an outcome in an exposed group to the proportion of the outcome in an unexposed group. It is therefore a measure derived from proportions. So, **B matches with IV.**
- **C. Median:** The **Mann-Whitney U test** is a non-parametric test used to compare differences between two independent groups on a continuous measure. It specifically tests whether the medians of the two groups are equal. So, **C matches with I.**
- **D. Goodness of fit:** A **Chi-square** test is a statistical test that can be used to assess how well a set of observed frequencies matches a set of expected frequencies. This application is specifically known as a "goodness of fit" test. So, **D matches with II.**

Step 3: Final Answer:

The correct associations are A-III, B-IV, C-I, and D-II, which corresponds to option (D).

💡 Quick Tip

Associate parametric tests like the t-test with means, and non-parametric tests like Mann-Whitney with medians. Chi-square is very versatile but is famous for "goodness of fit" and comparing categorical data/proportions.

48. Which of the following are the relative dating methods?

- A. Fluorine
- B. Dendrochronology
- C. Stratigraphy
- D. Palynology

Choose the correct answer from the options given below:

- (A) A, C and D only
- (B) A, B and C only
- (C) A, B and D only
- (D) B, C and D only

Correct Answer: (A) A, C and D only

Solution:

Step 1: Understanding the Concept:

Archaeological dating techniques are categorized as either relative or absolute. Relative methods determine the age of something in relation to something else (older, younger, or contemporary) without providing a numerical age. Absolute methods, in contrast, provide a specific age in calendar years.

Step 2: Detailed Explanation:

Let's classify each of the listed methods:

- **A. Fluorine dating:** This is a chemical technique that compares the amount of fluorine absorbed by different bones buried at the same site. It can establish if they were buried contemporaneously but cannot assign a specific year. It is a **relative** method.
- **B. Dendrochronology:** This method, also known as tree-ring dating, provides a precise calendar year by matching the pattern of a tree's annual growth rings to a master sequence. It is an **absolute** method.
- **C. Stratigraphy:** This method relies on the geological principle that in an undisturbed sequence of layers, the lower layers are older than the upper ones. It establishes a sequence of "older than" and "younger than" but provides no numerical dates. It is a fundamental **relative** method.
- **D. Palynology:** The study of pollen grains allows for the creation of a chronological sequence based on changes in vegetation over time. Artifacts can be placed within this sequence, but it does not yield a specific calendar date. It is a **relative** method.

Step 3: Final Answer:

Based on the analysis, Fluorine dating (A), Stratigraphy (C), and Palynology (D) are all relative dating methods. Dendrochronology (B) is an absolute method. Therefore, the correct combination is A, C, and D only.

💡 Quick Tip

Remember the core difference: If a method gives a specific year or a numerical age range (like 2500 BC or 50,000 BP), it's absolute. If it just says "this is older than that," it's relative. Stratigraphy is the most basic form of relative dating.

49. When a Dolmen is placed under an earth mound, it is called a:

- (A) Passage grave
- (B) Tumulus
- (C) Stonehenge
- (D) Hallcist

Correct Answer: (B) Tumulus

Solution:**Step 1: Understanding the Concept:**

The question asks for the specific archaeological term for a prehistoric burial monument where a dolmen—a simple tomb constructed from large stones—is covered by a mound of earth or stone.

Step 2: Detailed Explanation:

Let's define the terms:

- **Passage grave:** A specific type of tomb consisting of a chamber connected to the exterior by a long passage, the entire structure of which is covered by a mound. While a dolmen can be part of a passage grave, this term describes a more complex structure.
- **Tumulus:** This is a general term, derived from Latin, for a burial mound or barrow. It refers to the mound of earth or stone raised over a grave. Therefore, a dolmen covered by such a mound is a type of tumulus. This is the most accurate general term.
- **Stonehenge:** This is the proper name of a specific, famous megalithic stone circle in England and is not a general term for a type of tomb.
- **Hallcist:** This refers to a specific type of long, stone-lined grave found in Scandinavia, which is different from a dolmen.

Step 3: Final Answer:

The correct and most general archaeological term for a mound of earth constructed over a grave, which could contain a dolmen, is a tumulus.

 Quick Tip

Remember the hierarchy of terms. A 'tumulus' or 'barrow' is the mound. What's inside the mound can be a 'cist', a 'dolmen', or a 'passage grave'. The question asks what the entire structure (dolmen + mound) is called, for which tumulus is the best general answer.

50. Match LIST-I with LIST-II

LIST-I (Books on Social Groups)	LIST-II (Author)
A. Kamars of Madhya Pradesh	I. M.N. Srinivas
B. Khallu - Maler - Gosain	II. N.K. Bose
C. Jati influence by tribes of Orissa	III. S.C. Dube
D. Thakur landlords - Brahmin cook	IV. L.P. Vidyarthi

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-III, B-IV, C-II, D-I
- (C) A-II, B-I, C-IV, D-III
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (B) A-III, B-IV, C-II, D-I

Solution:

Step 1: Understanding the Concept:

The task is to correctly associate significant ethnographic studies or illustrative concepts from the anthropology of India with the scholars who authored or developed them.

Step 2: Detailed Explanation:

- **A. Kamars of Madhya Pradesh:** The foundational ethnographic study of the Kamar tribe was conducted by **S.C. Dube**, published in his monograph "The Kamar". So, **A matches with III.**
- **B. Khallu - Maler - Gosain:** These terms relate to the ethnographic context of the Maler tribe of Jharkhand, whose culture was extensively studied by **L.P. Vidyarthi**, leading to his concept of the "Nature-Man-Spirit Complex". So, **B matches with IV.**
- **C. Jati influence by tribes of Orissa:** The process by which tribal groups were absorbed into the Hindu caste (Jati) system was a major focus of **N.K. Bose**, who described it as the "Hindu method of tribal absorption," drawing heavily on examples from Orissa. So, **C matches with II.**
- **D. Thakur landlords - Brahmin cook:** This phrase exemplifies the process of Sanskritization, where a social group (like Thakur landlords) attempts to raise its status by adopting the customs of a higher group (symbolized by employing a Brahmin cook). This concept was famously articulated by **M.N. Srinivas**. So, **D matches with I.**

Step 3: Final Answer:

Based on these connections, the correct sequence of matches is A-III, B-IV, C-II, D-I, which corresponds to option (B).

💡 Quick Tip

Associate key ethnographic monographs and concepts with their authors: S.C. Dube → The Kamar, Shamirpet. L.P. Vidyarthi → Maler, Nature-Man-Spirit Complex. N.K. Bose → Tribal absorption. M.N. Srinivas → Sanskritization, Dominant Caste, Ram-pura village.

51. The method of study to suggest the use of a particular tool in the past by observing the use of similar tools in contemporary societies with similar environments is called as _____ analogy.

- (A) Ethnographic
- (B) Cultural
- (C) Archaeological
- (D) Observational

Correct Answer: (A) Ethnographic

Solution:

Step 1: Understanding the Concept:

The question describes a method of archaeological inference where the function of a past artifact is deduced by comparing it to similar artifacts used by living people. This is a form of reasoning by analogy.

Step 2: Detailed Explanation:

- When archaeologists seek to understand how a prehistoric tool was used, they often look to the study of living or recent cultures for parallels. This practice of using data from contemporary societies to interpret the archaeological record is known as reasoning by analogy.
- Specifically, when the information is drawn from ethnography—the scientific description of contemporary human cultures—the method is termed **ethnographic analogy**. This involves using observations of tool use, manufacture, and discard in living societies to build models for interpreting past material culture.
- The other terms are less precise. "Cultural" and "observational" are too general, and "archaeological analogy" would refer to drawing comparisons between different archaeological contexts, not between the past and the present.

Step 3: Final Answer:

Using observations of contemporary societies to interpret past tool use is the specific definition of ethnographic analogy.

 Quick Tip

Remember that archaeology tries to reconstruct the past from material remains. Since the people are gone, archaeologists borrow information from ethnography (the study of living cultures) to breathe life into the artifacts. This bridge between the past and present is called ethnographic analogy.

52. Match LIST-I with LIST-II

LIST-I (Tribe)	LIST-II (Region)
A. Gonds	I. Odisha
B. Irula	II. Chota Nagpur
C. Bonda	III. Tamil Nadu
D. Ho	IV. Madhya Pradesh

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-I, B-III, C-II, D-IV
- (C) A-IV, B-III, C-I, D-II
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (C) A-IV, B-III, C-I, D-II

Solution:

Step 1: Understanding the Concept:

The objective is to match each tribal community listed with the primary state or geographical region in India where they are traditionally located.

Step 2: Detailed Explanation:

- **A. Gonds:** This large tribal group has a significant presence across Central India, with their largest population being in the state of **Madhya Pradesh**. So, **A matches with IV**.
- **B. Irula:** This Dravidian tribal group is indigenous to the Nilgiri Mountains of Southern India, residing predominantly in the state of **Tamil Nadu**. So, **B matches with III**.
- **C. Bonda:** This is a Particularly Vulnerable Tribal Group living in the remote hills of the Malkangiri district in southwestern **Odisha**. So, **C matches with I**.
- **D. Ho:** This Munda ethnic group is primarily concentrated in the Singhbhum region of Jharkhand, which is geographically part of the **Chota Nagpur Plateau**. So, **D matches with II**.

Step 3: Final Answer:

The correct set of matches is A-IV, B-III, C-I, and D-II, which corresponds to option (C).

 Quick Tip

For questions on Indian tribes, try to create a mental map. Gonds = Central India (MP). Bonda = Odisha hills. Irula = Nilgiri Hills (Tamil Nadu). Ho/Munda/Santhal = Chota Nagpur Plateau (Jharkhand).

53. The Kula ring, ceremonial exchange among the Trobriand Islanders included:-

- (A) white shell armbands and red shell necklaces
- (B) white rings, red shell armbands and red shell necklaces
- (C) red shell armbands and white shell necklaces
- (D) red rings, white shell armbands and red shell necklaces

Correct Answer: (A) white shell armbands and red shell necklaces

Solution:

Step 1: Understanding the Concept:

The Kula ring, famously analyzed by Bronisław Malinowski, is a system of ceremonial exchange found in the Trobriand Islands. The system is defined by the circulation of specific, highly valued items that create and maintain social relationships over a wide geographical area.

Step 2: Detailed Explanation:

The Kula exchange is built around two specific categories of valuables that travel in opposite directions among the islands:

- **Soulava:** These are long necklaces made of red spondylus shells, which circulate in a clockwise direction.
- **Mwali:** These are armbands or bracelets made of white conus shells, which circulate in a counter-clockwise direction.

These items are not commodities for everyday use but are objects of immense prestige, and possessing them, even temporarily, brings status to the holder. Option (A) correctly identifies both the **white shell armbands (Mwali)** and the **red shell necklaces (Soulava)**. The other options incorrectly describe the items or their colors.

Step 3: Final Answer:

The two types of valuables exchanged in the Kula ring are correctly identified as white shell armbands and red shell necklaces.

 Quick Tip

Remember the two Kula valuables: **Mwali** (white shell armbands) and **Soulava** (red shell necklaces). They are exchanged to build relationships and prestige, not for their material value, and they travel in opposite directions.

54. The rise and fall of the general sea level due to melting or forming of the glaciers is known as _____ movement.

- (A) Iso-static
- (B) Eustatic
- (C) Ice
- (D) Glacier

Correct Answer: (B) Eustatic

Solution:

Step 1: Understanding the Concept:

The question asks for the correct geological term to describe worldwide changes in sea level that are caused by variations in the volume of water in the oceans.

Step 2: Detailed Explanation:

There are two distinct processes that alter the relationship between land and sea:

- **Eustatic movement:** This refers to a global change in sea level itself. The primary cause of eustatic change is the growth and melting of continental ice sheets. When glaciers form, water is removed from the oceans and locked up as ice, causing a global drop in sea level. When they melt, water returns to the oceans, causing a global rise. This matches the question's description perfectly.

- **Isostatic movement:** This refers to the vertical movement of the land itself, which can be local or regional. For instance, the weight of a glacier can depress the Earth's crust, and when the glacier melts, the crust slowly rebounds upward (isostatic rebound). This is a change in land level, not sea level.

Step 3: Final Answer:

A change in the global sea level resulting from the formation or melting of glaciers is known as a eustatic movement.

 Quick Tip

To remember the difference, think: **E**ustatic = **E**verywhere (global sea level). **I**sostatic = **I**solated (local land level).

55. The definition of Scheduled Tribes is mentioned in the Article _____ of the Constitution of India.

- (A) Article 340
- (B) Article 366 (25)
- (C) Article 15 (2)

(D) Article 25b

Correct Answer: (B) Article 366 (25)

Solution:

Step 1: Understanding the Concept:

The question requires identifying the precise article within the Constitution of India where the term "Scheduled Tribes" is formally defined.

Step 2: Detailed Explanation:

- The Constitution of India contains several articles pertaining to Scheduled Tribes. However, the formal definition is provided in the interpretation clause.
- **Article 366** of the Constitution serves as a definitions article, clarifying the meaning of various terms used in the document.
- Specifically, **Clause (25) of Article 366** states: "'Scheduled Tribes' means such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this Constitution."
- This definition points to Article 342, which outlines the procedure by which the President of India can specify the communities to be included in the official list of Scheduled Tribes. While Article 342 provides the list, Article 366(25) provides the definition of the term itself.

Step 3: Final Answer:

The article that explicitly provides the definition for "Scheduled Tribes" is Article 366 (25).

 Quick Tip

Remember the distinction: Article **366(25)** provides the **definition** of STs, while Article **342** outlines the **procedure for specification** (who is on the list). For the definition itself, the answer is 366(25).

56. Arrange the following tools in chronological order:

- A. Ovate hand-axe
- B. Flake cleaver
- C. Blade tools
- D. S-twist handaxe

Choose the correct answer from the options given below:

- (A) D, B, A, C
- (B) A, D, B, C
- (C) B, A, D, C
- (D) C, B, D, A

Correct Answer: (C) B, A, D, C

Solution:

Step 1: Understanding the Concept:

The question requires ordering different types of stone tools according to their appearance in the archaeological record, reflecting the technological evolution during the Stone Age.

Step 2: Detailed Explanation:

- First, we must separate the tools by their major archaeological period. Hand-axes (A, D) and cleavers (B) are diagnostic of the Lower Palaeolithic Acheulean industry. Blade tools (C) are the hallmark of the later Upper Palaeolithic. This immediately establishes that (C) must be the last item in the sequence.
- Next, we need to order the Acheulean tools (B, A, D). The Acheulean tradition shows a clear progression from cruder, simpler forms to more refined and symmetrical ones over hundreds of thousands of years.
 - **B. Flake cleaver:** Cleavers are a fundamental tool of the Acheulean, present from its earlier stages.
 - **A. Ovate hand-axe:** The symmetrical, finely-worked ovate hand-axe represents the classic or Middle Acheulean stage of technology.
 - **D. S-twist hand-axe:** A hand-axe with a deliberately flaked 'S'-shaped profile is a highly specialized and technologically sophisticated form, characteristic of the Late Acheulean. It demonstrates a very high level of skill.
- This reflects a technological progression from a staple tool (cleaver) to a classic refined form (ovate) to a hyper-refined variant (S-twist).

Step 3: Final Answer:

The correct chronological progression is: Flake cleaver (B) first, followed by the Ovate hand-axe (A), then the advanced S-twist handaxe (D), and finally the Upper Palaeolithic Blade tools (C). This gives the sequence B, A, D, C.

Quick Tip

In any Palaeolithic tool sequence, blade technology (Upper Palaeolithic) always comes after hand-axe technology (Lower Palaeolithic). Within the Acheulean, the trend is towards greater symmetry and refinement. The S-twist is a sign of very late, advanced workmanship.

57. The Nobel prize for discovery of DNA structure was awarded to Watson, Crick and Wilkins in the year:-

- (A) 1953
- (B) 1958
- (C) 1962
- (D) 1964

Correct Answer: (C) 1962

Solution:

Step 1: Understanding the Concept:

This question requires distinguishing between the year a landmark scientific discovery was made and the year it was formally recognized with a Nobel Prize, which often occurs several years later.

Step 2: Detailed Explanation:

- The discovery of the double helix structure of DNA by James Watson and Francis Crick, based on crucial X-ray diffraction data from Maurice Wilkins and Rosalind Franklin, was published in the journal *Nature* in **1953**.
- The Nobel Prize in Physiology or Medicine for this groundbreaking discovery was awarded nine years later, in **1962**.
- The prize was shared by Watson, Crick, and Wilkins. Rosalind Franklin, whose contribution was essential, had died in 1958 and thus was ineligible for the award, as Nobel Prizes are not awarded posthumously.

Step 3: Final Answer:

While the discovery was made in 1953, the Nobel Prize was awarded to Watson, Crick, and Wilkins in the year 1962.

💡 Quick Tip

Remember the two crucial dates for the DNA double helix: **1953** was the year of the discovery and publication. **1962** was the year of the Nobel Prize. Exam questions often try to confuse these two dates.

58. A type of family in which one is born is called _____.

- (A) Family of procreation
- (B) Polygynous family
- (C) Family of orientation
- (D) Polyandrous family

Correct Answer: (C) Family of orientation

Solution:

Step 1: Understanding the Concept:

In the study of kinship and social organization, anthropologists make a key analytical distinction between the family an individual is born into and the family they later form as an adult.

Step 2: Detailed Explanation:

Let's define the terms:

- **Family of orientation:** This is the specific term for the family in which a person is born and raised. It is within this unit that primary socialization occurs, and an individual receives their initial social status and cultural "orientation."
- **Family of procreation:** This is the term for the family that an individual establishes through marriage and the birth of children. It is the family formed for the purpose of "procreating."
- Polygynous and polyandrous families describe marital structures (plural marriage) and are not related to this specific distinction.

Step 3: Final Answer:

The correct sociological term for the family into which a person is born and socialized is the family of orientation.

💡 Quick Tip

To remember the difference: your **orientation** comes from your **origin** (your birth family). Your family of **procreation** is the one you **create** through marriage and children.

59. Which of the following is not a cultural component as proposed by Leslie White?

- (A) Sociological aspect
- (B) Economic aspect
- (C) Technological aspect
- (D) Sentimental aspect

Correct Answer: (D) Sentimental aspect

Solution:

Step 1: Understanding the Concept:

The question refers to the theoretical model of culture developed by the American anthropologist Leslie White. He conceptualized culture as a system composed of three distinct, interacting subsystems.

Step 2: Detailed Explanation:

Leslie White's model divides culture into three hierarchical layers:

1. **Technological subsystem:** This forms the foundation and includes all tools, techniques, and practices used to harness energy from the environment. White considered this layer to be the primary driver of cultural evolution.
2. **Sociological subsystem:** This middle layer comprises all social institutions and interpersonal relationships, including kinship systems, political structures, and economic organization.
3. **Ideological subsystem:** This top layer consists of the system of beliefs, philosophies, values, and knowledge, including art, religion, and mythology.

When we examine the options provided, the "Technological aspect" and "Sociological aspect" directly correspond to White's subsystems. The "Economic aspect" is a key part of the sociological subsystem. The "Sentimental aspect," however, is not a term White used for any of his three primary components. Sentiments would be considered part of the ideological subsystem, but "sentimental aspect" is not the formal name of a component.

Step 3: Final Answer:

The "Sentimental aspect" is not one of the formal components in Leslie White's tripartite model of culture.

💡 Quick Tip

Remember Leslie White's three-part model of culture as a layered pyramid: **Technology** is the foundation, supporting the **Social** systems, which in turn support the **Ideology** at the top. The mnemonic T-S-I can be helpful.

60. Arrange the following culture periods in chronological order.

- A. Ahar culture
- B. Sunga-Kusana-Gupta
- C. Kayatha culture
- D. Malwa culture

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) A, D, C, B
- (C) B, A, D, C
- (D) C, A, D, B

Correct Answer: (D) C, A, D, B

Solution:

Step 1: Understanding the Concept:

The question requires arranging a list of Indian archaeological cultures and historical periods in the correct time sequence, from the earliest to the most recent.

Step 2: Detailed Explanation:

- First, it is essential to distinguish between the prehistoric Chalcolithic (Copper-Stone Age) cultures and the later historical periods. The Kayatha, Ahar, and Malwa cultures are all Chalcolithic. The Sunga-Kusana-Gupta item refers to a sequence of historical dynasties. Therefore, the historical period (B) must be the last in the sequence.
- Next, we must establish the internal chronology of the Chalcolithic cultures of Central India and Rajasthan. - **C. Kayatha culture** (c. 2450–1700 BCE) is generally considered the earliest of these Chalcolithic traditions. - **A. Ahar culture** (c. 3000–1500 BCE) is another early Chalcolithic culture, largely contemporary with, but in many regional sequences following,

the Kayatha culture. - **D. Malwa culture** (c. 1900–1400 BCE) is a later, more widespread Chalcolithic culture that follows the Kayatha and Ahar phases. - Finally, **B. Sunga-Kusana-Gupta** represents the historical period from the 2nd century BCE to the 6th century CE, which comes long after the Chalcolithic period ended.

Step 3: Final Answer:

The correct chronological sequence from earliest to latest is: Kayatha culture (C), followed by Ahar culture (A), then Malwa culture (D), and finally the Sunga-Kusana-Gupta historical period (B). This gives the sequence C, A, D, B.

 Quick Tip

When faced with a chronological sequencing question, first look for the item that is clearly from a different major era (e.g., prehistoric vs. historic). Here, the Sunga-Kusana-Gupta period is historical, while the others are prehistoric (Chalcolithic). Placing this last can often eliminate most of the incorrect options.

61. Arrange the following in chronological order of the year of their publication

- A. The Golden Bough
- B. The Elementary Structure of Kinship
- C. Primitive Culture
- D. Argonauts of the Western Pacific

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) C, A, D, B
- (C) B, A, D, C
- (D) C, B, D, A

Correct Answer: (B) C, A, D, B

Solution:

Step 1: Understanding the Concept:

This question tests knowledge of the historical timeline of anthropology by asking for the correct publication order of four of the discipline's most influential books.

Step 2: Detailed Explanation:

Let's identify the publication date for each seminal work:

- **C. Primitive Culture:** This foundational text of 19th-century evolutionary anthropology, written by E.B. Tylor, was published in **1871**.
- **A. The Golden Bough:** This extensive comparative study of myth and religion by Sir James Frazer, another major figure of the same era, was first published in **1890**.
- **D. Argonauts of the Western Pacific:** This book, authored by Bronisław Malinowski, revolutionized anthropology by establishing participant observation fieldwork. It was published

in **1922**.

- **B. The Elementary Structures of Kinship:** This cornerstone of structural anthropology, which analyzed kinship as a system of exchange, was written by Claude Lévi-Strauss and published in **1949**.

Step 3: Final Answer:

Arranging the books by their publication year from earliest to latest yields the following sequence: Primitive Culture (C), The Golden Bough (A), Argonauts of the Western Pacific (D), and The Elementary Structures of Kinship (B). The correct sequence is C, A, D, B.

 Quick Tip

Associate authors with their eras: Tylor and Frazer are the 19th-century "armchair" pioneers. Malinowski is the early 20th-century father of fieldwork. Lévi-Strauss is a mid-20th-century structuralist. This timeline of authors helps sequence their major works.

62. Which of the following are palaeolithic and mesolithic techniques?

- A. Anvil stone
- B. Grinding and polishing
- C. Punching
- D. Cylindrical hammer

Choose the correct answer from the options given below:

- (A) A, C and D only
- (B) A and C only
- (C) A, B, C and D
- (D) B, C and D only

Correct Answer: (A) A, C and D only

Solution:

Step 1: Understanding the Concept:

The question asks to identify which stone-working techniques are characteristic of the Palaeolithic and Mesolithic periods, distinguishing them from techniques that define later periods.

Step 2: Detailed Explanation:

Let's analyze each technique:

- **A. Anvil stone:** The technique of striking a core against a stationary anvil is a basic form of percussion used to produce flakes. It is one of the earliest techniques, prevalent throughout the Palaeolithic.

- **B. Grinding and polishing:** This method involves abrading a stone tool to create a smooth surface and a tough, durable edge. This technique is the primary technological marker of the **Neolithic** period (New Stone Age) and is not a feature of the earlier Palaeolithic or Mesolithic

chipped-stone industries.

- **C. Punching:** Also known as indirect percussion, this technique uses an intermediary tool (a punch) between the hammer and the core. It allows for precise, controlled force, and is characteristic of the Upper Palaeolithic for producing regular blades.

- **D. Cylindrical hammer:** Using a "soft hammer" made of antler, bone, or wood (which is often cylindrical) allows for the removal of thinner, flatter flakes with less shattering than a hard stone hammer. This technique was developed in the Lower Palaeolithic (Acheulean) and used extensively thereafter.

Step 3: Final Answer:

The anvil, punching, and cylindrical hammer techniques are all methods of flaking and percussion used during the Palaeolithic and Mesolithic. Grinding and polishing is a distinctively Neolithic technique. Therefore, A, C, and D are the correct options.

💡 Quick Tip

Remember the key technological divide: **Palaeolithic/Mesolithic** = chipped/flaked stone tools. **Neolithic** = ground and polished stone tools. Any mention of grinding or polishing points directly to the Neolithic.

63. Select the followers belonging to same school of thought.

- A. James Frazer
- B. Ruth Benedict
- C. Margaret Mead
- D. A. Kardiner

Choose the correct answer from the options given below:

- (A) A, B and D only
- (B) A, B and C only
- (C) B, C and D only
- (D) A, C and D only

Correct Answer: (C) B, C and D only

Solution:

Step 1: Understanding the Concept:

The question requires identifying a set of anthropologists from the list who are all major proponents of the same anthropological school of thought.

Step 2: Detailed Explanation:

Let's identify the theoretical affiliation of each anthropologist:

- **A. James Frazer:** A prominent British anthropologist of the late 19th and early 20th centuries, Frazer is a key figure of **classical cultural evolutionism**, known for his comparative

method.

- **B. Ruth Benedict**, **C. Margaret Mead**, and **D. A. Kardiner** are all leading figures associated with the American **Culture and Personality** school of thought, which was prominent in the mid-20th century. This school investigated the relationship between culturally patterned ways of life and the formation of individual personality. Benedict and Mead were students of Franz Boas who explored cultural configurations and child-rearing, while Kardiner, a psychoanalyst, collaborated with them to develop concepts like "basic personality structure."

Step 3: Final Answer:

Ruth Benedict, Margaret Mead, and A. Kardiner are all part of the Culture and Personality school. James Frazer belongs to the much earlier and theoretically distinct school of classical evolutionism. Therefore, the group sharing the same school of thought is B, C, and D.

 Quick Tip

Associate key figures with schools: Evolutionism (Tylor, Frazer). Historical Particularism (Boas). Culture and Personality (Benedict, Mead, Kardiner). Functionalism (Malinowski). Structural-Functionalism (Radcliffe-Brown). Structuralism (Lévi-Strauss). Grouping them this way is essential for theory questions.

64. Arrange the following concepts in chronological order of their proposal:

- A. Great and little traditions
- B. Dominant caste
- C. Sacred complex
- D. Nature - Man - Spirit Complex

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) A, D, C, B
- (C) B, A, C, D
- (D) C, B, D, A

Correct Answer: (A) A, B, C, D

Solution:

Step 1: Understanding the Concept:

The question asks to arrange significant concepts from the anthropology of India in the chronological order in which they were formally introduced and published.

Step 2: Detailed Explanation:

Let's establish the key publication dates for each concept's introduction into the discourse on Indian society:

- **A. Great and little traditions:** While Robert Redfield developed this concept earlier, its

specific and influential application to the Indian context was presented by McKim Marriott and Milton Singer in the seminal edited volume "Village India," published in **1955**.

- **B. Dominant caste:** This concept was formally introduced by M.N. Srinivas in his contribution to the very same "Village India" volume in **1955**, and was further elaborated in a famous paper in **1959**. It is thus contemporary with the application of 'Great and little traditions'.

- **C. Sacred complex:** This analytical framework was developed by L.P. Vidyarthi from his doctoral research on the sacred city of Gaya. His major work on the topic, "The Sacred Complex in Hindu Gaya," was published in **1961**.

- **D. Nature - Man - Spirit Complex:** This ecological concept was also developed by L.P. Vidyarthi based on his study of the Maler tribe. His book, "The Maler: A Study in Nature-Man-Spirit Complex of a Hill Tribe," was published in **1963**.

Step 3: Final Answer:

Based on the key publication dates, the correct chronological sequence is: Great and little traditions (A, 1955), Dominant caste (B, 1955/59), Sacred complex (C, 1961), and Nature - Man - Spirit Complex (D, 1963). Therefore, the correct order is A, B, C, D.

💡 Quick Tip

For chronological questions about concepts, associate them with the key publications. The edited volume "Village India" (1955) is a major landmark that introduced several concepts simultaneously, including the application of 'Great/Little Traditions' and 'Dominant Caste'. Works by L.P. Vidyarthi came slightly later, in the early 1960s.

65. Arrange the following in expanding order of social structure:

- A. Lineage
- B. Phratry
- C. Clan
- D. Family

Choose the correct answer from the options given below:

- (A) A, C, B, D
- (B) A, B, C, D
- (C) D, A, C, B
- (D) C, B, D, A

Correct Answer: (C) D, A, C, B

Solution:

Step 1: Understanding the Concept:

The question requires ordering several types of kinship-based social groups according to their scale and inclusiveness, from the smallest and most basic unit to the largest and most encompassing one.

Step 2: Detailed Explanation:

The standard anthropological model of social structure based on unilineal descent follows a clear hierarchical organization:

- **D. Family:** The smallest, most fundamental unit of kinship and social organization, based on immediate ties of marriage and parentage.
- **A. Lineage:** A group of families who can trace their descent from a common, known ancestor through demonstrated genealogical links. It is the next level of organization above the family.
- **C. Clan:** A larger group composed of several lineages. Members of a clan claim descent from a common, often mythical or totemic, ancestor, but the precise genealogical links are no longer known or traced.
- **B. Phratry:** The largest unit in this sequence, a phratry is a social division that consists of a group of two or more clans that are believed to be related to one another.

Step 3: Final Answer:

Arranged in expanding order, the correct sequence is: Family (D) → Lineage (A) → Clan (C) → Phratry (B). This corresponds to option (C).

💡 Quick Tip

Remember the kinship pyramid: **Family** is the base. Several families make up a **Lineage** (traced descent). Several lineages make up a **Clan** (stipulated descent). Several clans make up a **Phratry**.

66. Populations that are clearly isolated geographically and/or socially from other population groups are known as _____ isolates.

- (A) Breeding
- (B) Ostracized
- (C) Geographical
- (D) Reproductive

Correct Answer: (A) Breeding

Solution:

Step 1: Understanding the Concept:

The question asks for the technical term in population genetics that describes a population with significantly restricted gene flow from other groups, where this restriction can be due to either physical or cultural barriers.

Step 2: Detailed Explanation:

Let's analyze the terms:

- **Breeding isolate:** This is the most accurate and comprehensive term. It describes a population where, for any reason (geographical, social, religious, etc.), mating occurs predominantly

among members of that group. The key concept is the formation of a distinct mating pool or "breeding" population. It perfectly covers both "geographically and/or socially" isolated groups.

- **Ostracized isolate:** "Ostracized" describes a social process of exclusion, which is a possible cause of isolation, but it is not the standard scientific term for the resulting population itself.

- **Geographical isolate:** This term is too narrow as it only refers to populations isolated by physical barriers like mountains or oceans, ignoring the social isolation mentioned in the question.

- **Reproductive isolate:** In evolutionary biology, this term usually implies a more profound level of separation where two populations are biologically incapable of interbreeding to produce fertile offspring (i.e., they have become distinct species). The question implies restricted gene flow, not a complete biological barrier.

Step 3: Final Answer:

The term that best describes a population isolated by either geographical or social factors, resulting in endogamous mating patterns, is a breeding isolate.

Quick Tip

Think about the consequences of isolation. Both geographic and social barriers lead to a population that primarily breeds within itself. Therefore, "breeding isolate" is the most fitting and comprehensive technical term.

67. Arrange the following in chronological order during Pleistocene period:-

- A. Riss
- B. Gunz
- C. Wurm
- D. Mindel

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) D, B, C, A
- (C) B, A, D, C
- (D) C, B, D, A

Correct Answer: B, D, A, C

Solution:

Step 1: Understanding the Concept:

The question requires ordering the four major glacial periods, or ice ages, of the Pleistocene epoch as they have been classically defined for the European Alps. This specific sequence was established by early 20th-century geologists Albrecht Penck and Eduard Brückner.

Step 2: Detailed Explanation:

The Alpine glacial stages were named after rivers in southern Germany that represent the southernmost extent of the ice sheets during these periods. The established chronological sequence, beginning with the oldest and proceeding to the most recent, is as follows:

1. **Günz** glacial stage (the earliest of the four major glaciations).
2. **Mindel** glacial stage (the second major glaciation).
3. **Riss** glacial stage (the third major glaciation).
4. **Würm** glacial stage (the final and most recent major glaciation of the Pleistocene).

Step 3: Final Answer:

To construct the correct sequence using the letters provided, we match them to the chronological order:

- First (oldest) is Günz, which corresponds to letter **B**.
- Second is Mindel, which corresponds to letter **D**.
- Third is Riss, which corresponds to letter **A**.
- Fourth (most recent) is Würm, which corresponds to letter **C**.

Therefore, the correct chronological sequence is **B, D, A, C**.

💡 Quick Tip

A simple mnemonic to remember the Alpine glacial sequence is to think of the alphabetical order of the first letter: **G**ünz, **M**indel, **R**iss, **W**ürm. (Note: The alphabet works perfectly for the last three, just remember Günz is first).

68. Arrange the following stages in Prophase-I in the order of occurrence.

- A. Zygotene
- B. Leptotene
- C. Diplotene
- D. Pachytene

Choose the correct answer from the options given below:

- (A) A, B, C, D
- (B) D, B, C, A
- (C) B, A, D, C
- (D) C, B, D, A

Correct Answer: (C) B, A, D, C

Solution:

Step 1: Understanding the Concept:

The question asks for the correct temporal sequence of the sub-stages within Prophase I of meiosis. Prophase I is the initial and most complex phase of meiosis, during which homologous chromosomes pair and exchange genetic information through crossing over.

Step 2: Detailed Explanation:

Prophase I is divided into five distinct stages that occur in a specific, unvarying order:

1. **Leptotene:** The chromosomes, already duplicated, begin to condense and become visible as long, thin threads.
2. **Zygotene:** The crucial process of synapsis begins, where homologous chromosomes actively pair up side-by-side, forming structures called bivalents.
3. **Pachytene:** The paired chromosomes are fully synapsed. It is during this stage that crossing over, the reciprocal exchange of genetic segments between non-sister chromatids, takes place.
4. **Diplotene:** The homologous chromosomes begin to repel each other and separate, but they remain attached at points called chiasmata, which are the physical manifestations of where crossing over occurred.
5. **Diakinesis:** The final stage, where chromosomes reach maximum condensation and the chiasmata terminalize.

Step 3: Final Answer:

Applying the given letters to the established biological sequence:

- The first stage is Leptotene (**B**).
- The second stage is Zygotene (**A**).
- The third stage is Pachytene (**D**).
- The fourth stage is Diplotene (**C**).

Thus, the correct order of occurrence is B, A, D, C.

💡 Quick Tip

A useful mnemonic for the stages of Prophase I is: "**L**azy **Z**ebra **P**ush **D**own **D**aisies" for **L**eptotene, **Z**ygotene, **P**achytene, **D**iplotene, **D**iakinesis.

69. Human chromosome 2, a large metacentric chromosome is the result of _____ during the course of evolution.

- (A) Translocation
- (B) Robertsonian translocation
- (C) Chromosomal replication
- (D) Chromosomal elongation

Correct Answer: (B) Robertsonian translocation

Solution:

Step 1: Understanding the Concept:

The question addresses a key event in primate evolution that explains the difference in chromosome number between humans ($2n=46$) and other great apes like chimpanzees ($2n=48$). This event involved the formation of the large human chromosome 2 from two smaller ancestral chromosomes.

Step 2: Detailed Explanation:

- Comparative genomics reveals that human chromosome 2 is a large, metacentric chromosome (with the centromere located in the middle). In contrast, chimpanzees, gorillas, and orangutans have two smaller, separate acrocentric chromosomes (with centromeres near one end) that contain the same genetic information.
- The most compelling hypothesis is that an end-to-end fusion of these two ancestral chromosomes occurred in the human lineage after it diverged from the other apes.
- This specific type of fusion, where the long arms of two acrocentric chromosomes join to form a single large chromosome, is known as a **Robertsonian translocation**.
- Strong evidence for this event includes the presence of vestigial telomere sequences (which normally cap the ends of chromosomes) in the middle of human chromosome 2, as well as an inactive, relic centromere at a second location, corresponding to the centromere of one of the ancestral chromosomes.

Step 3: Final Answer:

The fusion of two ancestral ape chromosomes to form the single, large human chromosome 2 is the classic example of a Robertsonian translocation event in human evolution.

💡 Quick Tip

Remember the key evidence: Humans have 46 chromosomes, chimps have 48. The fusion of two ape chromosomes created our chromosome 2. This specific type of fusion of two chromosomes at the centromere is called a Robertsonian translocation.

70. Arrange the following in the correct chronological order of European palaeolithic culture.

- A. Solutrean
- B. Mousterian
- C. Acheulean
- D. Aurignacian

Choose the correct answer from the options given below:

- (A) C, B, D, A
- (B) A, C, B, D
- (C) B, A, C, D
- (D) C, A, D, B

Correct Answer: (A) C, B, D, A

Solution:

Step 1: Understanding the Concept:

This question requires arranging four major European Palaeolithic industries in their correct temporal sequence, from the oldest to the most recent. These industries span the Lower, Mid-

dle, and Upper Palaeolithic periods.

Step 2: Detailed Explanation:

Let's place each cultural tradition within the established framework of the Palaeolithic:

- **C. Acheulean:** This industry, characterized by its signature tool, the hand-axe, is the dominant culture of the **Lower Palaeolithic**. It is the oldest tradition in this list.
- **B. Mousterian:** This industry, associated with Neanderthals and characterized by prepared-core flake tools (the Levallois technique), defines the **Middle Palaeolithic**. It chronologically follows the Acheulean.
- **D. Aurignacian:** This industry, associated with the first anatomically modern humans in Europe, marks the beginning of the **Upper Palaeolithic**. It is characterized by blade technology and new forms of bone tools. It follows the Mousterian.
- **A. Solutrean:** This is a later culture within the **Upper Palaeolithic**, renowned for its highly skilled pressure flaking technique used to create beautiful laurel-leaf points. It follows the Aurignacian and the subsequent Gravettian period.

Step 3: Final Answer:

Following the established archaeological sequence from oldest to newest:

1. Acheulean (Lower Palaeolithic) - C
2. Mousterian (Middle Palaeolithic) - B
3. Aurignacian (early Upper Palaeolithic) - D
4. Solutrean (later Upper Palaeolithic) - A

The correct chronological order is C, B, D, A.

💡 Quick Tip

Memorize the main Palaeolithic sequence: **Lower** (Acheulean) → **Middle** (Mousterian) → **Upper** (Aurignacian, Gravettian, Solutrean, Magdalenian). The order is alphabetical for L-M-U, which can help you remember the basic framework.

71. Select the founders of theoretical population genetics who fundamentally developed the concept of neo-Darwinism.

- A. R.A. Fisher
- B. Sewall Wright
- C. Gregor Mendel
- D. J.B.S. Haldane

Choose the correct answer from the options given below:

- (A) A, B and D only
- (B) A and C only
- (C) B, C and D only
- (D) B and D only

Correct Answer: (A) A, B and D only

Solution:

Step 1: Understanding the Concept:

The question asks to identify the scientists who are credited with creating the modern evolutionary synthesis (also known as neo-Darwinism). This synthesis involved reconciling Darwin's theory of natural selection with the principles of Mendelian genetics, and the primary tool for this was the development of a new field: theoretical population genetics.

Step 2: Detailed Explanation:

Let's evaluate the contribution of each individual:

- **A. R.A. Fisher, B. Sewall Wright, and D. J.B.S. Haldane** are the three scientists universally acknowledged as the founding fathers of theoretical population genetics. In the early 20th century, they independently developed the sophisticated mathematical models that demonstrated how natural selection, mutation, gene flow, and genetic drift could operate on Mendelian genes to produce the patterns of evolution observed in nature. Their collective work forms the bedrock of neo-Darwinism.
- **C. Gregor Mendel**, working in the 19th century, was the discoverer of the fundamental laws of heredity. His work was rediscovered around 1900 and provided the genetic mechanism that Darwin's theory lacked. However, he was not a part of the 20th-century synthesis that integrated his work with Darwin's; he provided one of the key ingredients, but Fisher, Wright, and Haldane were the architects who combined them.

Step 3: Final Answer:

The individuals who established the mathematical foundation of population genetics and thereby developed neo-Darwinism are R.A. Fisher, Sewall Wright, and J.B.S. Haldane. Therefore, the correct combination is A, B, and D.

Quick Tip

Remember the "big three" of population genetics: Fisher, Wright, and Haldane. They are the ones who did the math to connect Mendel's peas with Darwin's finches to create the modern understanding of evolution.

72. Which of the following tribes share the linguistic group?

- A. Chenchus
- B. Mikir
- C. Kadar
- D. Koraga

Choose the correct answer from the options given below:

- (A) A, C and D only
- (B) A, B and C only
- (C) A, B, C and D
- (D) B, C and D only

Correct Answer: (A) A, C and D only

Solution:

Step 1: Understanding the Concept:

The question requires identifying which tribes from the given list belong to the same major linguistic family. The tribal populations of India are primarily classified into three large language families: Dravidian, Austroasiatic, and Tibeto-Burman.

Step 2: Detailed Explanation:

Let's determine the linguistic classification for each tribe:

- **A. Chenchus:** A tribe of the Nallamala Hills in Andhra Pradesh and Telangana, the Chenchus speak a language that is classified as a member of the South-Central branch of the **Dravidian** language family.
- **B. Mikir:** More commonly known as the Karbi, this tribe is indigenous to the hill areas of Assam. The Karbi language belongs to the **Tibeto-Burman** language family.
- **C. Kadar:** A tribe inhabiting the forested hills of Kerala and Tamil Nadu, the Kadars speak a language that belongs to the Southern branch of the **Dravidian** family.
- **D. Koraga:** A tribal community found primarily in the Dakshina Kannada district of Karnataka, the Koragas speak a language that is also a member of the **Dravidian** family.

Step 3: Final Answer:

The Chenchu, Kadar, and Koraga tribes all speak languages that are part of the Dravidian family, placing them in the same linguistic group. The Mikir (Karbi) tribe, however, speaks a Tibeto-Burman language, placing them in a different group. Therefore, A, C, and D are the correct choices.

💡 Quick Tip

A general geographical rule of thumb for Indian tribal languages: Tribes in South and Central India often speak Dravidian or Austroasiatic languages. Tribes in Northeast India predominantly speak Tibeto-Burman languages. This can help you quickly group or separate tribes.

73. Match LIST-I with LIST-II

LIST-I (Book)	LIST-II (Author)
A. Elementary Forms of the Religious life	I. Radcliffe-Brown
B. Growing Up in New Guinea	II. B. Malinowski
C. Magic, Science and Religion	III. Emile Durkheim
D. The Andaman Islanders	IV. Margaret Mead

Choose the correct answer from the options given below:

- (A) A-III, B-IV, C-II, D-I
- (B) A-I, B-III, C-II, D-IV

- (C) A-II, B-I, C-IV, D-III
(D) A-IV, B-II, C-III, D-I

Correct Answer: (A) A-III, B-IV, C-II, D-I

Solution:

Step 1: Understanding the Concept:

This question tests knowledge of the foundational literature of sociology and anthropology. The task is to correctly attribute four classic and highly influential books to their respective authors.

Step 2: Detailed Explanation:

- **A. Elementary Forms of the Religious Life:** This is a seminal 1912 work in the sociology of religion, which argued that the source of religion and social cohesion is the community itself. It was written by the French sociologist **Emile Durkheim**. So, **A matches with III**.
- **B. Growing Up in New Guinea:** Published in 1930, this book is a classic ethnographic study of childhood, education, and socialisation among the Manus people, written by the prominent American anthropologist **Margaret Mead**. So, **B matches with IV**.
- **C. Magic, Science and Religion:** This is a famous 1925 essay (later the title of a collection) that functionally differentiates these three domains of thought and practice, written by the father of modern ethnography, **Bronisław Malinowski**. So, **C matches with II**.
- **D. The Andaman Islanders:** Published in 1922, this ethnographic monograph on the social organization of the Andamanese people is a foundational text of the structural-functionalist school, written by British social anthropologist **A.R. Radcliffe-Brown**. So, **D matches with I**.

Step 3: Final Answer:

Based on the established authorship of these classic works, the correct pairings are A-III, B-IV, C-II, and D-I, which corresponds to option (A).

💡 Quick Tip

Associate each major anthropologist with their key ethnographic work: Durkheim → Religion/Suicide, Mead → Samoa/New Guinea, Malinowski → Trobriand Islands (Kula ring), Radcliffe-Brown → Andaman Islands.

74. Match LIST-I with LIST-II

LIST-I (Tool technique)	LIST-II (Tool/Product)
A. Fluting	I. Shoulder celt
B. Levelloisian	II. Parallel-sided blade
C. Grinding and polishing	III. Crest-guiding blade
D. Pressure flaking	IV. Tortoise core

Choose the correct answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
- (B) A-II, B-III, C-I, D-IV
- (C) A-I, B-II, C-IV, D-III
- (D) A-III, B-IV, C-I, D-II

Correct Answer: (D) A-III, B-IV, C-I, D-II

Solution:

Step 1: Understanding the Concept:

The question requires matching specific stone tool manufacturing techniques with the artifacts, products, or preparatory stages that are characteristically associated with them.

Step 2: Detailed Explanation:

Let's analyze each technique and its associated product:

- **B. Levelloisian (Levallois technique):** This is a sophisticated method of core preparation from the Middle Palaeolithic. The core is meticulously shaped on its sides and top surface before the final, desired flake is removed. The resulting exhausted core, with its distinctive convex shape, is famously known as a **Tortoise core**. So, **B matches with IV**.
- **C. Grinding and polishing:** This is the defining technique of the Neolithic period. It involves abrading a chipped stone tool to create a smooth, strong cutting edge. A classic example of a tool made this way is the **Shoulder celt** (a type of polished stone axe). So, **C matches with I**.
- **A. Fluting:** In blade production, a "flute" is a long, narrow scar left by removing a blade. To prepare a core for systematic blade removal, a ridge is often created down its length. The first blade struck from this ridge, which removes it, is called a **Crest-guiding blade** or crested blade. So, **A matches with III**.
- **D. Pressure flaking:** This is a highly controlled technique for retouching a tool's edge or for detaching very fine, small flakes. It is ideal for sharpening, shaping, and regularizing the edges of artifacts like **Parallel-sided blades**. So, **D matches with II**.

Step 3: Final Answer:

By systematically pairing the techniques with their products, we find the correct matches are A-III, B-IV, C-I, and D-II. This combination corresponds to option (D).

💡 Quick Tip

For lithic technology questions, focus on the definitive matches first. Levallois technique is almost synonymous with the tortoise core, and grinding/polishing is the key to Neolithic celts. Use these strong links to eliminate incorrect options.

75. Which of the following methods may not be used to understand growth patterns in humans?

- (A) Repeat cross-sectional
- (B) Cross-sectional
- (C) Longitudinal
- (D) Mixed Longitudinal

Correct Answer: (A) Repeat cross-sectional

Solution:

Step 1: Understanding the Concept:

The question asks to identify which research design, from a list of methods used in growth studies, is not primarily aimed at describing the fundamental pattern of human growth (i.e., the shape of the growth curve, velocity, and timing of events like puberty for a given population).

Step 2: Detailed Explanation:

Let's examine the purpose of each study design:

- **(B) Cross-sectional:** This method measures different groups of children at different ages at a single point in time. It is used to quickly establish population norms and describe the general **pattern of growth**.
- **(C) Longitudinal:** This method follows the same group of children and measures them repeatedly over many years. It is the gold standard for understanding individual variability, growth velocity, and the precise timing of growth events, thereby defining the **pattern of growth** in detail.
- **(D) Mixed Longitudinal:** This design combines elements of both, following several age cohorts for shorter, overlapping periods. It is an efficient way to gather data on growth velocity and describe the overall **pattern of growth**.
- **(A) Repeat cross-sectional:** This design involves conducting two or more separate cross-sectional studies on the same population, but decades apart (e.g., measuring 10-year-olds in 1990 and again in 2020). Its specific purpose is not to describe the growth pattern itself, but to determine if that pattern has changed over time due to environmental factors. This phenomenon is known as a "secular trend." Thus, it studies changes *in* the pattern, rather than the pattern itself.

Step 3: Final Answer:

Cross-sectional, longitudinal, and mixed longitudinal studies are all primary methods for describing and understanding the basic patterns of human growth. A repeat cross-sectional study is specifically designed to investigate secular trends, or changes in those patterns over generations, and is therefore the method that is not used to understand the fundamental pattern itself.

 Quick Tip

Remember the three core methods for growth studies: Cross-sectional (snapshot of different ages), Longitudinal (movie of the same person), and Mixed (a series of short movies). "Repeat cross-sectional" is for comparing different snapshots taken years apart to see if people are growing differently now than they did in the past.

