

CUET PG 2025 ANTHROPOLOGY Question Paper with Solutions

Time Allowed :1 Hour 30 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:

In statistics, the level of significance, denoted by alpha (α), is the probability of rejecting the null hypothesis when it is true.

Association studies, like many other scientific studies, use a p-value to determine whether an observed association is statistically significant.

The p-value is the probability of obtaining test results at least as extreme as the results actually

observed, under the assumption that the null hypothesis is correct.

Step 2: Detailed Explanation:

A common convention in most fields of science is to set the significance level at 0.05. This means that there is a 5% chance of concluding that a difference exists when there is no actual difference.

If the calculated p-value is less than or equal to this threshold ($\alpha = 0.05$), the results are considered statistically significant.

This is expressed as $P \leq 0.05$.

- $P = 0.05$ means the probability is exactly 5%.

- $P > 0.05$ means the result is not statistically significant.

- $P > 0.1$ means the result is not statistically significant and the evidence against the null hypothesis is very weak.

- $P \leq 0.05$ means the probability is 5% or less, which is the standard for rejecting the null hypothesis and accepting that the association is statistically significant.

Step 3: Final Answer:

Based on the standard convention in statistical analysis and association studies, a p-value less than or equal to 0.05 is considered to indicate a statistically significant result. Therefore, the correct option 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 (c. 9000–6000 BC) was a Mesolithic culture in Northern Europe. It is known for its distinctive stone tool industry and artifacts made from bone and antler, adapted to a forest and wetland environment.

Step 2: Detailed Explanation:

Let's analyze the options:

- **Pottery:** The introduction of pottery is a hallmark of the Neolithic period. The Maglemosian culture is Mesolithic, a period characterized by hunting, gathering, and fishing, but predating the widespread use of pottery. Therefore, pottery is not typically found in Maglemosian contexts.
- **Adzes:** Adzes, which are axe-like tools with the blade mounted perpendicular to the handle, were common in the Maglemosian culture. They were used for woodworking, such as making canoes and dwellings.
- **Antler hafts:** Maglemosian people made extensive use of animal resources. Antler was a key material for creating hafts (handles) for tools like axes and adzes.
- **Harpoons:** Harpoons, often barbed and made from bone or antler, were essential tools for fishing and hunting aquatic animals, which were important food sources for Maglemosian people.

Step 3: Final Answer:

The Maglemosian culture was pre-pottery. While adzes, antler hafts, and harpoons are characteristic artifacts of this Mesolithic culture, pottery was not developed or used by them. Therefore, pottery is the correct answer.

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:

Gene expression in eukaryotes involves several steps. First, a gene is transcribed from DNA into a precursor messenger RNA (pre-mRNA). This pre-mRNA then undergoes several modifications before it becomes a mature messenger RNA (mRNA) that can be translated into a protein. These modifications are collectively known as post-transcriptional modification.

Step 2: Detailed Explanation:

- **Transcription:** This is the process of creating an RNA copy of a gene sequence from a DNA template. The immediate product is a primary transcript or pre-mRNA.

- **Post-transcriptional modification:** After transcription, the pre-mRNA is processed into mature mRNA. This process includes three main events:
 1. **5' Capping:** A modified guanine nucleotide is added to the 5' end.
 2. **Splicing:** Introns (non-coding regions) are removed, and exons (coding regions) are joined together.
 3. **Polyadenylation:** A tail of multiple adenine nucleotides (a poly-A tail) is added to the 3' end of the RNA transcript. This process is crucial for the stability, nuclear export, and translation of the mRNA.
- **Translation:** This is the process where the genetic code carried by mRNA is decoded to produce a specific sequence of amino acids in a polypeptide chain. It occurs after post-transcriptional modifications are complete.
- **Post-translational modification:** This refers to the chemical modification of a protein after its synthesis during translation.

Step 3: Final Answer:

The addition of a poly(A) tail to the 3' end is a key step that happens to the RNA transcript after it has been synthesized (transcribed) but before it is translated. Therefore, it is a characteristic feature 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 matching various tribal communities in India with the historical move-

ments they were associated with.

Step 2: Detailed Explanation:

Let's match each tribe with its corresponding movement:

- **A. Mundas:** The Munda tribe, from the Chota Nagpur Plateau, was famously led by Birsa Munda in a major uprising against the British and landlords. This movement is known as the Birsa movement or Munda Ulgulan (Great Tumult). So, A matches with III.
- **B. Gonds:** The Rampa Rebellion of 1922-24, also known as the Manyam Rebellion, was a significant tribal uprising in the Godavari agency of the Madras Presidency. While led by Alluri Sitarama Raju, it involved tribal communities of the region, including the Koya, who are a sub-tribe of the Gonds. Thus, B matches with IV.
- **C. Bhils:** The Bhagat movement was a socio-religious reform movement among the Bhils of Rajasthan, Gujarat, and Madhya Pradesh. It was started by leaders like Govindgiri to unite the Bhils and advocate for their rights. So, C matches with I.
- **D. Bhotiyas:** The Chipko movement was a non-violent social and ecological movement in the 1970s in the Himalayan regions of Uttar Pradesh (now Uttarakhand). It involved rural villagers, including women and local communities like the Bhotiyas, protecting trees from being felled. So, D matches with II.

Step 3: Final Answer:

Based on the matching:

A → III

B → IV

C → I

D → II

The correct combination is A-III, B-IV, C-I, D-II, which corresponds to 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:

The australopithecines are a group of extinct hominins. Paleoanthropologists classify them into two main morphological groups: "gracile" and "robust." This classification is based primarily on features related to chewing, such as the size of the teeth, jaws, and chewing muscles.

- **Gracile australopithecines** had a lighter build, especially in the skull and teeth. Their jaws were less massive, and their molars were smaller.

- **Robust australopithecines** (often placed in the genus *Paranthropus*) had massive jaws, enormous molars, and prominent sagittal crests on their skulls for the attachment of large chewing muscles.

Step 2: Detailed Explanation:

Let's classify each species:

- **A. A. africanus:** This is the classic example of a gracile australopithecine from South Africa.

- **B. A. boisei:** Also known as *Paranthropus boisei*, this species is the epitome of a "hyper-robust" australopithecine from East Africa, known for its massive jaws and molars. It is not gracile.

- **C. A. afarensis:** This East African species, famously represented by the "Lucy" fossil, is a gracile australopithecine.

- **D. A. anamensis:** This is one of the earliest australopithecine species and is considered a gracile form.

Step 3: Final Answer:

The species classified as gracile australopithecines are *A. africanus*, *A. afarensis*, and *A. anamensis*. *A. boisei* is a robust australopithecine. Therefore, 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:

Genetic variants are differences in DNA sequences among individuals. These can range from single nucleotide changes (SNPs) to larger structural changes in chromosomes. Different molecular techniques are designed to detect different types of variations.

Step 2: Detailed Explanation:

Let's analyze the techniques:

- **PCR-RFLP (Polymerase Chain Reaction - Restriction Fragment Length Polymorphism):** This is a technique used to identify variations in DNA sequences at a specific location. It involves amplifying a DNA region with PCR and then cutting the amplified product with a restriction enzyme. If a genetic variant alters the recognition site for the enzyme, the resulting fragments will be of a different length. This difference in fragment length (polymorphism) allows for the identification of the genetic variant. It is specifically designed to detect small-scale variations like SNPs.

- **FISH (Fluorescence In Situ Hybridization):** This technique uses fluorescent probes that bind to specific parts of a chromosome. It is used to visualize and map genetic material, and can detect large-scale changes like chromosomal aneuploidy (abnormal number of chromosomes) or large deletions/translocations, but not small genetic variants like SNPs.

- **Karyotyping:** This is a laboratory procedure that produces an image of an individual's chromosomes. It is used to look for abnormalities in chromosome number (e.g., Down syndrome, which has an extra chromosome 21) or large-scale structural changes. It cannot detect small genetic variants within a gene.

- **Chromosomal banding:** This is a technique used in conjunction with karyotyping. It involves staining chromosomes to produce a characteristic pattern of light and dark bands. It helps in identifying chromosomes and detecting large structural abnormalities, but its resolution is too low to identify variants at the DNA sequence level.

Step 3: Final Answer:

Among the given options, PCR-RFLP is the technique specifically designed to identify small genetic variants, such as single nucleotide polymorphisms (SNPs), in a targeted DNA sequence. The other techniques are used for analyzing chromosomes at a much larger, structural level.

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:

This question requires knowledge of the modes of inheritance for several common genetic diseases. The mode of inheritance describes how a genetic trait or disorder is passed from one generation to the next. The main types are autosomal dominant, autosomal recessive, X-linked dominant, and X-linked recessive.

Step 2: Detailed Explanation:

Let's determine the mode of inheritance for each disease:

- **A. Cystic fibrosis:** This is a well-known genetic disorder that affects mucus and sweat glands. It is inherited in an **autosomal recessive** pattern, meaning an individual must inherit two copies of the mutated gene (one from each parent) to have the disease. So, **A matches with II**.
- **B. Fragile X Syndrome:** This is the most common inherited cause of intellectual disability. It is inherited in an **X-linked dominant** pattern. Because the gene is on the X chromosome, inheritance patterns differ between males and females. So, **B matches with III**.
- **C. Huntington's disease:** This is a progressive neurodegenerative disorder. It is inherited in an **autosomal dominant** pattern, which means inheriting only one copy of the mutated gene is sufficient to cause the disorder. So, **C matches with IV**.
- **D. Color blindness:** The most common forms of color blindness (red-green) are inherited in an **X-linked recessive** pattern. This is why it is much more common in males, who have only one X chromosome. So, **D matches with I**.

Step 3: Final Answer:

Combining the matches:

- A → II (Autosomal recessive)
- B → III (X-linked dominant)
- C → IV (Autosomal dominant)
- D → I (X-linked recessive)

The correct combination is A-II, B-III, C-IV, D-I, which 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:

This question tests knowledge of specific aneuploidy conditions, specifically trisomies. A trisomy is a genetic disorder in which a person has three copies of a chromosome instead of the usual two. Each syndrome listed is associated with a specific chromosome.

Step 2: Detailed Explanation:

Let's match each condition with its corresponding chromosomal abnormality:

- **A. Edward's syndrome:** This is a severe genetic disorder caused by the presence of a third copy of **chromosome 18**. It is also known as Trisomy 18. So, **A matches with II**.
- **B. Down's syndrome:** This is the most common chromosomal disorder, caused by a full or partial extra copy of **chromosome 21**. It is also known as Trisomy 21. So, **B matches with III**.
- **D. Patau's syndrome:** This is a syndrome caused by a chromosomal abnormality, in which some or all of the cells of the body contain extra genetic material from **chromosome 13**. It is also known as Trisomy 13. So, **D matches with IV**.
- **C. Mosaic trisomy:** Mosaicism means that an individual has a mixture of cells, some with the normal number of chromosomes and some with an extra chromosome. While mosaicism can occur with any trisomy, **Trisomy 16** is the most common trisomy found in pregnancies, though it usually results in miscarriage if present in all cells (full trisomy). Live births are possible with mosaic Trisomy 16. Given the other definite matches, it is logical to pair Mosaic

trisomy with Trisomy of 16. So, **C matches with I**.

Step 3: Final Answer:

Combining the matches:

A → II (Trisomy of 18)

B → III (Trisomy of 21)

C → I (Trisomy of 16)

D → IV (Trisomy of 13)

The correct combination is A-II, B-III, C-I, D-IV, which 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 influential book by Sir John Lubbock that helped popularize the term "prehistory" and establish a framework for its study.

Step 2: Detailed Explanation:

Sir John Lubbock, an English banker, politician, naturalist, and archaeologist, was a key figure in 19th-century science. Influenced by Charles Darwin's work, Lubbock sought to apply evolutionary principles to human history.

In 1865, he published his seminal work titled "**Pre-historic Times, as Illustrated by Ancient Remains, and the Manners and Customs of Modern Savages**". This book became a standard textbook for prehistoric archaeology for decades. In it, Lubbock famously introduced the terms "Palaeolithic" (Old Stone Age) and "Neolithic" (New Stone Age) to subdivide the Stone Age.

The short title of this book is commonly referred to as "Prehistoric Times".

Step 3: Final Answer:

Comparing the options with the book's title, "Prehistoric times" is the correct choice.

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, or customary law, refers to the systems of rules and dispute resolution that exist in traditional, often non-literate societies, such as many tribal communities in India. These laws are typically unwritten and are based on long-standing customs, traditions, and community consensus rather than on formal, codified statutes.

Step 2: Detailed Explanation:

Let's analyze each characteristic:

- **A. Collective responsibility:** This is a key feature of many tribal legal systems. The community or kin group (clan, family) is often held responsible for the actions of its members. A crime committed by an individual is seen as an offense against another kin group, and the responsibility for restitution or the consequences of the act falls upon the offender's entire group. This promotes social cohesion and group control.
- **B. Breach of law affects only the individual:** This statement is generally incorrect and contradicts the principle of collective responsibility. In many tribal societies, a breach of law is considered to disrupt the social harmony of the entire community, not just the individuals directly involved.
- **C. Territorial limitation:** Customary laws are typically specific to a particular tribe or community and are applicable only within its geographical territory or among its members. The laws of one tribe are not generally binding on another.
- **D. Evidences are usually based on oaths and ordeals:** In the absence of modern forensic methods, traditional legal systems often rely on supernatural or ritualistic means to determine

guilt or innocence. Oaths (swearing innocence before a deity or sacred object) and ordeals (subjecting the accused to a dangerous test) are common methods of evidence and judgment.

Step 3: Final Answer:

Based on the analysis, characteristics A, C, and D are typical features of primitive law in tribal societies. Characteristic B is not. Therefore, 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 characterized by a suite of adaptations, particularly related to an arboreal (tree-dwelling) lifestyle. A major trend is the shift in sensory reliance from smell to vision. This led to significant changes in the skull, eyes, and brain.

Step 2: Detailed Explanation:

Let's analyze the options in the context of primate evolution:

- **Stereoscopic vision:** This is the ability to perceive depth and 3-D structure, resulting from the brain processing visual information from two forward-facing eyes. It is a hallmark of primate evolution, crucial for judging distances when leaping between branches. This is a related change.
- **Binocular vision:** This refers to the overlapping fields of view from having two eyes located at the front of the skull rather than on the sides. It is the anatomical basis for stereoscopic vision and is a key primate trait. This is a related change.
- **Reduced Olfaction:** As primates became more reliant on vision, their sense of smell (olfaction) became less important. This is reflected in the reduction of the snout (rostrum) and the olfactory regions of the brain. This is a related change.
- **Increased sensory modalities:** This implies that primates developed entirely new types of senses (like echolocation or electroreception), which they did not. Instead, they re-prioritized

and enhanced existing senses, primarily vision, at the expense of another (olfaction). The overall number of sensory modalities did not increase. Therefore, this statement is not an accurate description of primate evolutionary changes.

Step 3: Final Answer:

Stereoscopic vision, binocular vision, and reduced olfaction are all fundamental evolutionary changes in primates. The concept of "increased sensory modalities" is incorrect; primates re-specialized their sensory toolkit, they did not add new senses to it.

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 requires knowledge of the history of paleoanthropology, specifically matching important hominin species with the scientists who discovered and/or named them.

Step 2: Detailed Explanation:

- **A. A. afarensis:** The most famous specimen is "Lucy," discovered in Ethiopia in 1974 by a team led by American paleoanthropologist **Donald Johanson**. So, **A matches with III**.
- **B. A. boisei:** The type specimen, OH 5 or "Zinjanthropus," was discovered at Olduvai Gorge, Tanzania, in 1959 by Mary Leakey. Her husband, **Louis Leakey**, was the director of the expedition and initially named the species. So, **B matches with IV**.
- **C. A. africanus:** The type specimen is the "Taung Child," a fossilized skull of a young individual discovered in 1924 in Taung, South Africa. It was identified and named by Australian

anatomist **Raymond Dart**. So, **C matches with I**.

- **D. A. robustus**: The type specimen was found at Kromdraai, South Africa, and the species was named in 1938 by Scottish-South African doctor and paleontologist **Robert Broom**. So, **D matches with II**.

Step 3: Final Answer:

Combining the matches:

A → III

B → IV

C → I

D → II

The correct combination is A-III, B-IV, C-I, D-II, which corresponds to 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:

Cell division can be of two types: mitosis and meiosis. Mitosis produces two genetically identical diploid daughter cells. Meiosis is a special type of cell division that produces four haploid gametes (sperm and egg cells). Meiosis involves two rounds of division: Meiosis I and Meiosis II.

Step 2: Detailed Explanation:

- **Mitosis**: This is known as equational division because the daughter cells have the same number of chromosomes as the parent cell ($2n \rightarrow 2n$).
- **Meiosis I**: This is the first meiotic division. During this stage, homologous chromosomes pair up and then separate, moving to opposite poles of the cell. This process reduces the chromosome number from diploid ($2n$) to haploid (n). Because the chromosome number is halved, Meiosis I is called **reduction division**.
- **Mitosis I**: This term is incorrect and does not exist in standard cell biology. Mitosis is a single process.
- **Meiosis II**: This is the second meiotic division. It is similar to mitosis. Sister chromatids

separate, but the chromosome number does not change (it remains haploid). Therefore, Meiosis II is known as equational division.

Step 3: Final Answer:

Meiosis I is the stage where the number of chromosomes is reduced by half. Hence, it is known 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:

This question relates to post-marital residence patterns, which are rules or customs in a society that determine where a newly married couple lives. Different societies have different patterns.

Step 2: Detailed Explanation:

Let's define the given terms:

- **Neolocal residence:** The couple establishes a new, independent residence away from both of their families.
- **Patrilocal residence (or Virilocal):** The couple lives with or near the groom's father's family.
- **Avunculocal residence:** The couple lives with or near the groom's mother's brother (his maternal uncle). This pattern is often found in matrilineal societies where the maternal uncle is an important figure of authority.
- **Matrilocal residence (or Uxorilocal):** The couple lives with or near the bride's mother's family.

Step 3: Final Answer:

The description "stays with the groom's mother's brother's family" precisely matches the definition of avunculocal residence.

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 refers to the physiological adjustments an organism makes in response to a change in an environmental factor, such as temperature. In a cold climate, the primary physiological challenge is to maintain core body temperature (thermoregulation) by increasing heat production and reducing heat loss.

Step 2: Detailed Explanation:

- **Increased metabolic rate:** The body produces heat through metabolic processes. To counteract cold stress, the basal metabolic rate (BMR) can increase, generating more internal heat. This is a primary mechanism for cold acclimatization. Shivering is a short-term response, while a sustained increase in BMR is a longer-term acclimatization.
- **Reduced respiratory rate:** This is not a typical response to cold. Breathing rates are more closely tied to oxygen demand and carbon dioxide levels.
- **Reduced cardiac output:** In the cold, the body may need to increase circulation to extremities to prevent frostbite, or it might constrict peripheral blood vessels to conserve core heat. A general reduction in cardiac output is not a primary adaptive mechanism for heat production.
- **Increased Iron deficiency:** Iron deficiency (anemia) is a pathological condition, not a beneficial adaptation. It would likely impair the body's ability to cope with cold stress due to reduced oxygen-carrying capacity.

Step 3: Final Answer:

The most direct and significant physiological parameter that indicates acclimatization to cold by increasing heat production is an increased metabolic rate.

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 asks to identify a specific qualitative research method. Qualitative methods focus on in-depth understanding of social phenomena. The key descriptors in the question are "intensive," "careful and complete study," and "of a person or an institution" (i.e., a single, bounded unit).

Step 2: Detailed Explanation:

- **Observation:** This is a technique for gathering data by watching subjects. It can be part of many methods, but it isn't the method itself that is defined as an intensive study of a single unit.
- **Case study:** This method involves an in-depth, long-term examination of a single instance or event: a "case." A case can be a single person, a group, an institution, or a community. The goal is a detailed and holistic understanding. This definition perfectly matches the question's description.
- **Ethnography:** This is a broader method focused on describing an entire culture or social group. While it is intensive, its unit of analysis is typically a whole community or culture, not necessarily just one person or institution as a bounded case.
- **Interview:** This is a data collection tool used within many research methods (like case studies and ethnography) to gather information through conversation. It is not the overall research method itself.

Step 3: Final Answer:

The method that is defined as an intensive, careful, and complete study of a person, institution, or a single bounded system 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:

This question requires knowledge of the historical timeline of major discoveries in paleoanthropology. We need to place the discovery of each fossil/group in the correct sequence from earliest to most recent.

Step 2: Detailed Explanation:

Let's find the year of discovery for each item:

- **D. Cro-Magnon:** The first remains of anatomically modern humans, known as Cro-Magnon, were found in the Abri de Cro-Magnon rock shelter in France in **1868**.
- **B. *Australopithecus africanus*:** The type specimen, the "Taung Child," was discovered by quarry workers in South Africa in **1924** and subsequently identified by Raymond Dart.
- **C. *Australopithecus robustus*:** The type specimen, TM 1517, was discovered at Kromdraai, South Africa, by a schoolboy, Gert Terblanche, in **1938** and was identified by Robert Broom.
- **A. *Australopithecus boisei*:** The type specimen, OH 5 ("Zinjanthropus"), was discovered by Mary Leakey at Olduvai Gorge, Tanzania, in **1959**.

Step 3: Final Answer:

Arranging these discoveries in chronological order (from earliest to latest):

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

The correct 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 refers to somatotyping, a system developed by William H. Sheldon to classify human body types or physiques. The three primary somatotypes are endomorphy, mesomorphy, and ectomorphy.

Step 2: Detailed Explanation:

Let's define the characteristics of each somatotype:

- **Endomorphy:** Characterized by a predominance of softness, roundness, and a high proportion of body fat. The physique is less muscular and has a larger waist.
- **Mesomorphy:** Characterized by a predominance of muscle, bone, and connective tissue. Features include a muscular and solid torso, wide shoulders, a narrow waist, medium bones, and relatively low body fat. This physique is often described as athletic.
- **Ectomorphy:** Characterized by linearity, fragility, and a lean body. Features include long limbs, narrow shoulders and hips, a thin torso, and very low body fat and muscle mass.

Step 3: Final Answer:

The description "Medium bones and solid torso, low fat levels, wide shoulders with a narrow waist" aligns perfectly with the characteristics 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 asks to identify a radiometric dating method with a very wide effective range, from thousands to billions of years. Each method has a specific range based on the half-life of the radioactive isotopes involved.

Step 2: Detailed Explanation:

Let's evaluate the ranges of the given dating methods:

- **Carbon-14 (Radiocarbon) dating:** This method is used to date organic materials. The half-life of Carbon-14 is about 5,730 years. It is effective for dating samples up to about 50,000 to 60,000 years old. This range is too short for samples that are billions of years old.

- **Potassium-Argon (K-Ar) dating:** This method is used to date volcanic rocks and minerals. It is based on the decay of Potassium-40 (^{40}K) into Argon-40 (^{40}Ar). The half-life of ^{40}K is very long, about 1.25 billion years. This long half-life makes it suitable for dating very old geological samples, from as young as a few thousand years to billions of years old. It is a key method used to date early hominin sites in East Africa.

- **Uranium Series dating:** This is a group of methods (like Uranium-lead and Uranium-thorium). Uranium-lead dating is used for extremely old samples (billions of years), while Uranium-thorium is used for younger samples (up to 500,000 years). While the "series" covers a wide range, K-Ar is a single method known for this specific broad application in paleoanthropology.

- **Thermoluminescence (TL) dating:** This method is used to date crystalline materials that have been fired, such as pottery or burnt flint. Its effective range is from a few hundred years up to about 500,000 years. This range is too short for the upper limit required.

Step 3: Final Answer:

Comparing the options, Potassium-Argon (K-Ar) dating is the most appropriate single method that covers the vast time span from thousands of years up to billions of 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:

Lamarckism, or the theory of inheritance of acquired characteristics, was an early theory of evolution proposed by Jean-Baptiste Lamarck. It was based on several key principles that attempted to explain how species change over time.

Step 2: Detailed Explanation:

Let's analyze the given points based on Lamarck's theory:

- **A. Formation of rudimentary organs:** This relates to Lamarck's principle of "Use and Disuse." Lamarck proposed that organs that were not used would shrink and become vestigial or rudimentary over time. So, this concept is part of his theory.
- **B. Direct environment and new desire:** Lamarck believed that a change in the environment creates a new need or "desire" (besoin) in an organism, which drives it to change its behavior and, consequently, its physical form to meet that need. This is a core tenet of Lamarckism.
- **C. Genetic drift:** This is a mechanism of evolution that is part of the modern evolutionary synthesis, not Lamarckism. It describes random fluctuations in the frequencies of gene variants (alleles) in a population. It was proposed long after Lamarck.
- **D. Inheritance of acquired characters:** This is the most famous principle of Lamarckism. It states that the physical changes (characters) an organism acquires during its lifetime (e.g., a giraffe stretching its neck to reach higher leaves) are passed on to its offspring.

Step 3: Final Answer:

The principles of Lamarckism include the effects of the environment creating new desires (B), the principle of use and disuse leading to changes like the formation of rudimentary organs (A), and the inheritance of these acquired characters (D). Genetic drift (C) is not a part of Lamarck's theory. Therefore, the correct options are A, B, and D.

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 matching specific genetic diseases with the genetic principles or processes they exemplify.

Step 2: Detailed Explanation:

- **A. Sickle Cell Anemia:** The sickle cell allele in its heterozygous state (one normal allele, one sickle allele) provides resistance to malaria. This is the classic textbook example of **heterozygous advantage**. So, **A matches with II**.
- **B. Beta Thalassemia (Major):** This is the homozygous condition for the beta thalassemia allele, leading to severe anemia and often death before adulthood if left untreated. An allele that causes death when homozygous is known as a recessive lethal allele. This is a **lethal gene effect**. So, **B matches with IV**.
- **C. Huntington's Chorea:** This is an autosomal dominant disorder. Individuals with the allele will develop the disease, but the age of onset and the severity of symptoms can vary greatly. This variation in the expression of a genotype is a hallmark of variable **penetrance and expressivity**. So, **C matches with I**.
- **D. Phenylketonuria (PKU):** A single gene mutation in the PAH gene causes a wide range of symptoms, including intellectual disability, seizures, eczema, and reduced skin and hair pigmentation. When one gene influences multiple, seemingly unrelated phenotypic traits, it is

known as a **pleiotropic effect**. So, **D matches with III**.

Step 3: Final Answer:

Based on the matching: $A \rightarrow \text{II}$, $B \rightarrow \text{IV}$, $C \rightarrow \text{I}$, $D \rightarrow \text{III}$. This corresponds to option (D).

Quick Tip

Associate keywords: Sickle cell $\leftrightarrow$ Malaria resistance (heterozygous advantage). Huntington's $\leftrightarrow$ Variable age of onset (penetrance/expressivity). PKU $\leftrightarrow$ Multiple symptoms from one gene (pleiotropy). Thalassaemia Major $\leftrightarrow$ 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 type of marriage arrangement found in some traditional societies, focusing on the pre-marital residence and the consequences if the marriage does not proceed.

Step 2: Detailed Explanation:

- **Probationary marriage:** This involves a period where the prospective groom lives with the bride's family, essentially on a "probation." His character, work ethic, and suitability as a husband are evaluated by the family. This is also a form of "marriage by service." The existence of a penalty (compensation) for not completing the marriage is a key feature, indicating a formal, binding arrangement being tested. This matches the description perfectly.
- **Trial marriage:** This term usually refers to a less formal arrangement where a couple cohabits to test their compatibility before committing to a formal marriage. While similar, it doesn't typically involve living with the bride's parents under their evaluation or a formal compensation clause.
- **Marriage by capture:** This involves the abduction of the bride and is not related to the described scenario.
- **Marriage by purchase:** This involves the payment of a bride price from the groom's family to the bride's family. The scenario described involves service and potential compensation, not

an upfront purchase.

Step 3: Final Answer:

The arrangement where a groom is tested by living with the bride's family, with a penalty for failure, is best described 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:

This question requires knowledge of the history of immunology and human genetics, specifically the timeline of the discovery of major human blood group systems.

Step 2: Detailed Explanation:

Let's establish the discovery year for each blood group system:

- **A. ABO:** This was the first human blood group system discovered by Karl Landsteiner in **1901**.
- **D. MN:** This system was discovered next, by Karl Landsteiner and Philip Levine in **1927**.
- **B. Rh:** The Rh blood group system was discovered by Karl Landsteiner and Alexander S. Wiener in **1940**.
- **C. MNSs:** The MN system was already known. The discovery of the related S and s antigens, which expanded it into the MNSs system, occurred in **1947** (by Walsh and Montgomery) and **1951** (by Levine et al.). Therefore, the MNSs system as a whole was established after MN and Rh.

Step 3: Final Answer:

Arranging the discoveries in chronological order:

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

The correct sequence 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:**

Dermatoglyphics, the study of fingerprint patterns, shows variation among different human populations. The three basic patterns are loops, whorls, and arches. The relative frequencies of these patterns can be a characteristic of a population group. The question asks which group has the lowest frequency of whorls.

Step 2: Detailed Explanation:

- A low frequency of whorls is often correlated with a high frequency of another pattern, typically arches, as loops are the most common pattern in most populations.
- **Mongoloids** (East Asian populations) are generally characterized by a high frequency of whorls, among the highest in the world.
- **Micronesians** and **Australian aborigines** also tend to have relatively high frequencies of whorls compared to European and African populations.
- **Bushmen** (the San people of Southern Africa) are well-documented in dermatoglyphic studies for having an unusually high frequency of arches, which is the rarest pattern globally. Consequently, they have a very low frequency of whorls.

Step 3: Final Answer:

Among the given options, the Bushmen are known for having the lowest frequency of whorls and the highest frequency of arches.

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:

Evolutionary change is driven by processes that introduce, shuffle, and filter genetic variation within and between populations. The question asks to identify which factors are responsible for creating new genetic variation (*produce*) or shuffling existing variation into new combinations (*redistribute*).

Step 2: Detailed Explanation:

- **A. Mutation:** This is the ultimate source of all new genetic variation. A mutation is a change in the DNA sequence, creating new alleles. Therefore, it **produces** variation.
- **B. Natural selection:** This is a mechanism that acts upon existing variation. It is a process of differential survival and reproduction, where certain traits are favored over others. Natural selection reduces or maintains variation; it does not produce or redistribute it.
- **C. Gene flow:** This is the transfer of alleles from one population to another through migration. It **redistributes** variation by introducing alleles from one population's gene pool into another's.
- **D. Recombination:** This process, occurring during meiosis (specifically, crossing over), shuffles existing alleles on chromosomes to create new combinations in offspring. It is a major source of genetic shuffling and thus **redistributes** variation.

Step 3: Final Answer:

Mutation (A) produces new variation. Gene flow (C) and Recombination (D) redistribute

existing variation. Natural selection (B) is a filtering mechanism, not a source or redistributor of variation. 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 characterized by a significant advancement in stone tool technology, primarily the development of blade production. The question asks for the dominant or most characteristic tool type for this period in the Indian subcontinent.

Step 2: Detailed Explanation:

The Upper Palaeolithic in India is marked by industries based on the mass production of long, parallel-sided flakes called blades. These blades were then modified into various specific tools.

- **Burins:** These are chisel-like tools for engraving, and they are a very important component of Upper Palaeolithic toolkits worldwide, including India. They are part of the "blade and burin" complex that defines the period.

- **Backed blades:** These are blades with one edge intentionally blunted (retouched), likely for easier handling or hafting. This tool type is particularly numerous and characteristic of the Indian Upper Palaeolithic. Many assemblages show a high proportion of various forms of backed blades, indicating their central role in the toolkit.

- **Awls and Points:** These are also present in the assemblages, used for piercing and as projectile tips, respectively. However, they are generally not considered the single most dominant or defining feature compared to the proliferation of backed blade technology.

Step 3: Final Answer:

While the entire Upper Palaeolithic toolkit is often referred to as a "blade and burin industry," the backed blade is arguably the most numerous and consistently dominant finished tool type

across various Indian sites from this period. Its prevalence marks a key technological feature of the era in this region.

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 question asks to identify what "Micoquian" refers to in the context of prehistoric archaeology. Micoquian is the name of a specific stone tool industry from the late Lower Palaeolithic and early Middle Palaeolithic periods in Europe.

Step 2: Detailed Explanation:

- The Micoquian industry is named after the type site of La Micoque in southwestern France.
- It is considered a late variant of the Acheulean tradition. The hallmark of the Acheulean is the biface, or hand-axe.
- The Micoquian is specifically defined by a distinctive type of finely-made, often asymmetrical **hand-axe**. This Micoquian hand-axe typically has a thick, rounded base and a thinned, sharp, and often pointed tip.
- Let's analyze the options:
- (A) Blade: Blades are characteristic of the later Upper Palaeolithic.
- (B) Hand-axe: The Micoquian is an industry characterized by a specific type of hand-axe. This is the correct category.
- (C) Chopper: Choppers are the defining tools of the much earlier Oldowan industry.
- (D) Scraper: Scrapers are common tools in many periods, especially the Middle Palaeolithic (Mousterian), but the Micoquian is defined by its bifaces, not scrapers.

Step 3: Final Answer:

Micoquian refers to a stone tool industry whose diagnostic artifact is a specific type of hand-axe. Therefore, the correct answer is 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 asks to identify the research approach that starts from general principles or "pre-existing themes" to arrive at specific conclusions. This involves understanding the difference between deductive and inductive reasoning.

Step 2: Detailed Explanation:

- **Inductive approach:** This approach works from specific observations to broader generalizations and theories. The process is specific → general. A researcher would collect data, analyze it for patterns, and then formulate a hypothesis or theory.
- **Deductive approach:** This approach works from the more general to the more specific. It starts with a theory or a "pre-existing theme," then narrows that down into more specific hypotheses that can be tested. The researcher draws conclusions by testing these hypotheses against observations. The process is general → specific. This perfectly matches the question's description.
- **Hypothetical approach:** A hypothesis is a part of both inductive and deductive reasoning, not an overarching approach in itself in this context. The "hypothetico-deductive" method is another name for the deductive approach.
- **Facts based:** All scientific approaches aim to be based on facts, so this is not a distinct type of reasoning approach.

Step 3: Final Answer:

The approach where conclusions are drawn from pre-existing themes or general theories 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 anthropologist who presented a formal, systematic application of the comparative method in a specific year, 1889. The comparative method in 19th-century anthropology involved comparing cultural phenomena across a wide range of societies to discover supposed universal evolutionary sequences.

Step 2: Detailed Explanation:

- **E.B. Tylor:** A leading figure of 19th-century cultural evolutionism and a pioneer of anthropology. He was a major proponent of the comparative method. In **1889**, he delivered a seminal paper to the Royal Anthropological Institute titled "On a Method of Investigating the Development of Institutions; applied to Laws of Marriage and Descent." This paper is famous for being one of the first attempts to use statistical analysis (cross-cultural correlations) to make the comparative method more rigorous and scientific. This specific event marks a key moment in the history of the method.
- **Franz Boas:** He was a staunch critic of the grand, evolutionary comparative method used by Tylor and others. He advocated for historical particularism, studying cultures in their own contexts. His major work and influence came after 1889.
- **Margaret Mead and Ruth Benedict:** Both were students of Franz Boas and prominent figures in the 20th century. Their work was much later than 1889.

Step 3: Final Answer:

E.B. Tylor is the correct answer due to his landmark 1889 paper that systematically applied a statistical approach to the comparative method.

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 location of the discovery of the oldest known stone tools, noting a large quantity was found. This refers to a major discovery in paleoanthropology concerning the dawn of stone tool technology (the Oldowan industry).

Step 2: Detailed Explanation:

- **Olduvai Gorge, Tanzania:** A hugely important site for paleoanthropology, where the Leakeys discovered many hominin fossils and stone tools. The tools found here defined the Oldowan industry, but subsequent discoveries elsewhere proved to be older.
- **Peninj River, Tanzania:** Known for Acheulean tools, which are more advanced and younger than the earliest Oldowan tools.
- **Gona, Ethiopia:** Archaeological sites in the Gona river system of the Afar region, Ethiopia, have yielded a large assemblage of stone tools (over 3000 artifacts) securely dated to **2.6 million years ago**. For a long time, these were recognized as the world's oldest manufactured stone tools and provided the earliest solid evidence of the Oldowan industry.
- **Torralba and Ambrona, Spain:** These are European sites associated with later Acheulean technology and are much younger (around 400,000 years old).
- **Note on recent findings:** Even older tools, dated to 3.3 million years ago (the Lomekwian industry), have been found at Lomekwi 3 in Kenya. However, Gona remains the classic and most widely cited site for the oldest *Oldowan* tools and fits the description of a large assemblage. Given the options, Gona is the intended correct answer.

Step 3: Final Answer:

Gona, Ethiopia, is the site famous for the discovery of the oldest large assemblage of Oldowan stone tools, dated to about 2.6 million years ago.

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 main areas of work associated with the anthropologist Harold Conklin. This requires knowledge of his key ethnographic research and theoretical contributions.

Step 2: Detailed Explanation:

Harold C. Conklin (1926-2016) was a leading American anthropologist, known as a founder of modern ecological anthropology and ethnoecology.

- **B. Ifugao:** Conklin is renowned for his extensive and meticulous ethnographic fieldwork among the **Ifugao** people in the mountains of Luzon, Philippines. His work on their complex system of rice terracing is a classic in anthropology.

- **C. Indigenous agriculture:** Conklin's research focused on understanding local systems of knowledge, particularly in relation to the environment. His work on Ifugao wet-rice cultivation and his earlier monograph "Hanunóo Agriculture" are landmark studies of **indigenous agricultural** systems and ethnoecology.

- **D. Economy:** The study of indigenous agriculture is fundamentally a study of that society's **economy**—how they produce, distribute, and consume resources. Conklin's work provided a deep analysis of the economic life of the Ifugao.

- **A. Power:** While social structure and power relations are part of any comprehensive ethnography, "Power" as a central theme is not what Conklin is primarily known for, unlike political anthropologists. His focus was more on ecology, knowledge, and economy.

Step 3: Final Answer:

Conklin's primary associations are his ethnographic work with the Ifugao (B), his focus on their indigenous agriculture (C), and the broader economic context of these practices (D). Therefore, B, C, and D are the correct associated topics.

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 tool culture characterized by specific forms of hand-axes. The hand-axe (or biface) is the hallmark tool of a major Lower Palaeolithic industry.

Step 2: Detailed Explanation:

- **Abbevillian:** This is an older term for the early, cruder phase of the Acheulean in Europe. While it features hand-axes, they are typically thick, crudely flaked, and less refined than the shapes described.
- **Pre-Chellean:** This is an obsolete term for supposed tool industries older than the Chellean (another old name for Abbevillian) and is not a standard classification.
- **Acheulean:** This is the correct answer. The Acheulean industry, which lasted for over a million years, is defined by its characteristic bifacial tool, the hand-axe. Over its long duration, the hand-axe evolved from crude early forms to highly refined, symmetrical tools. The classic descriptive shapes for these developed hand-axes include **pear-shaped**, **oval-shaped (ovate)**, and pointed, **tongue-shaped (lanceolate)** forms.
- **Clactonian:** This was a contemporary Lower Palaeolithic industry in Europe that is notable for its **lack** of hand-axes. Its toolkit was based on thick flakes struck from cores, with the cores themselves often used as chopper-like tools.

Step 3: Final Answer:

The diverse and well-crafted forms of hand-axes, including pear, tongue, and oval shapes, are

the defining characteristic of 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 different archaeological and geological dating (or paleo-environmental) techniques with the specific types of materials they are used to analyze.

Step 2: Detailed Explanation:

- **A. Oxygen 16/18 technique:** This is a paleo-climatological method, not strictly a dating method. It measures the ratio of oxygen isotopes ($^{18}\text{O}/^{16}\text{O}$) in the calcium carbonate of foraminifera shells found in **deep-sea cores** to reconstruct past global temperatures and ice volume. So, **A matches with III.**
- **B. Radiocarbon (C-14) Dating:** This well-known method dates organic materials by measuring the decay of the radioactive isotope carbon-14. **Charcoal, wood, bone, and shell** are all organic materials suitable for C-14 dating. So, **B matches with IV.**
- **C. Potassium-Argon method:** This radiometric dating technique is used on volcanic rocks. It measures the decay of potassium-40 to argon-40. **Lavas and tuffs** are types of volcanic rock that can be dated with this method to determine the age of the geological strata. So, **C matches with I.**
- **D. Thermoluminescence (TL) method:** This method is used to date crystalline materials that have been fired, most commonly ceramics. Heating releases trapped electrons, and the

light emitted (luminescence) is measured to determine the time elapsed since the last firing. **Pottery** is the classic sample type for TL dating. So, **D matches with II**.

Step 3: Final Answer:

The correct pairings are: A-III, B-IV, C-I, D-II. This 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 to identify the specific village study through which the anthropologist McKim Marriott developed his influential concepts of "universalization" and "parochialization." These concepts describe the interaction between the "Great Tradition" (pan-Indian, often text-based Sanskritic Hinduism) and the "Little Tradition" (local, folk, and oral traditions) in Indian villages.

Step 2: Detailed Explanation:

- **Universalization** is the process by which elements of the Little Tradition (local customs, deities) are carried upward and incorporated into the Great Tradition.
- **Parochialization** is the opposite process, where elements of the Great Tradition are carried downward and transformed or reinterpreted within the context of the local Little Tradition.
- McKim Marriott formulated these concepts based on his intensive ethnographic fieldwork conducted in the 1950s in the village of **Kishangarhi**, located in the Aligarh district of Uttar Pradesh, India. His analysis was published in his famous essay "Little Communities in an Indigenous Civilization," which appeared in the edited volume "Village India: Studies in the Little Community" (1955).
- Other villages listed are associated with different anthropologists' studies (e.g., Rampura with M.N. Srinivas).

Step 3: Final Answer:

McKim Marriott's work on universalization and parochialization is based on his study of the village of 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 Upper Palaeolithic culture in Europe that is known for a specific and highly distinctive stone tool called a "star-shaped borer" (in French, *bec étoilé*).

Step 2: Detailed Explanation:

- **Abbevillian:** This is an early Lower Palaeolithic industry characterized by crude hand-axes, much older and technologically simpler than the tool in question.
- **Magdalenian:** This is the final culture of the Upper Palaeolithic in Western Europe (c. 17,000 to 12,000 years ago). It is famous for its sophisticated bone, antler, and ivory work (e.g., barbed harpoons) and a diverse lithic toolkit. A highly specialized and diagnostic tool from the Late Magdalenian period is the star-shaped borer, a multiple borer or drill with several radiating points. It is a hallmark of this culture's advanced flint-knapping skills.
- **Solutrean:** This culture predates the Magdalenian and is renowned for its masterfully crafted, thin, bifacial leaf-shaped points (laurel-leaf and willow-leaf points), made using pressure flaking. Their toolkit does not include the star-shaped borer.
- **Perigordian:** This is an older classification for a sequence of Upper Palaeolithic cultures in France, contemporary with the Aurignacian and preceding the Solutrean. It is known for backed blades and Gravette points, not star-shaped borers.

Step 3: Final Answer:

The star-shaped borer is a unique and diagnostic tool 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:

The question asks to identify a type of Acheulean handaxe that is not characterized by an elongated shape. Handaxe typology is based on form, particularly the length-to-breadth ratio and overall shape.

Step 2: Detailed Explanation:

- **Lanceolate:** As the name suggests, this type of handaxe is shaped like a lance-head. It is long, narrow, and pointed, making it a distinctly elongated form.
- **Cordiform:** This type is heart-shaped (from Latin *cor*, heart). It is relatively broad at the base and tapers to a point. While pointed, its overall shape is wider and less elongated compared to other types like lanceolate or ficron.
- **Micoquian:** This is a late Acheulean handaxe type that is characteristically elongated and asymmetrical, with a thick base and a finely worked, thinned tip.
- **Ficron:** This is a specific type of elongated handaxe, often with a thick, rough base and a long, drawn-out point.

Step 3: Final Answer:

Comparing the shapes, the cordiform handaxe is defined by its heart-like, broader shape, which is not primarily described as "elongated" in the way that lanceolate, Micoquian, and ficron types are.

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:

This question requires matching key concepts in Indian anthropology with the sociologists and anthropologists who pioneered them.

Step 2: Detailed Explanation:

- **A. Nature-man-spirit complex:** This concept, describing the interdependent relationship between the natural environment, human society, and the supernatural world in tribal cultures, was developed by **L. P. Vidyarthi** based on his study of the Maler tribe of Jharkhand. So, **A matches with III.**
- **B. Great and Little tradition:** This framework for analyzing civilizations, particularly the interaction between pan-regional literate traditions and local folk traditions, was proposed by American anthropologist **Robert Redfield**. So, **B matches with IV.**
- **C. Tribe-caste continuum:** This concept explains the process by which tribal groups in India gradually get absorbed into the Hindu caste system. It was formulated by **Surjeet Sinha** based on his study of the Bhumij of West Bengal. So, **C matches with I.**
- **D. Dominant caste:** This concept refers to a caste in a village that possesses numerical strength, economic power (land ownership), and political influence, and serves as a reference point for other castes. It was introduced by **M. N. Srinivas**. So, **D matches with II.**

Step 3: Final Answer:

The correct pairings are A-III, B-IV, C-I, 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 bolas. A bola (or bolas) is a throwing weapon made of weights on the ends of interconnected cords, used to capture animals by entangling their legs. In the archaeological record, what is found are the stone weights, known as bola stones.

Step 2: Detailed Explanation:

- Bolas are a type of hunting tool associated with hunting medium to large-sized game, which was characteristic of the **Palaeolithic** period.
- Spherical stones, often found in sets of three and sometimes with grooves for tying cords, have been interpreted as bola stones. These have been found at Palaeolithic sites in Europe, Africa, and Asia.
- The subsequent periods are characterized by different technologies: - Mesolithic: Microliths (small composite tools). - Neolithic: Polished stone tools and agriculture. - Chalcolithic: Use of copper alongside stone tools.
- While hunting continued, the specific technology of bolas is considered a Palaeolithic innovation for big-game hunting.

Step 3: Final Answer:

Bolas are a hunting weapon whose archaeological evidence (bola stones) is found in Palaeolithic contexts.

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 for the specific research method used to systematically trace kinship, ancestry, and social relationships, which is fundamental to the study of social organization.

Step 2: Detailed Explanation:

- **Genealogy (The Genealogical Method):** This is the specific and systematic method developed in anthropology (pioneered by W.H.R. Rivers) for collecting data on kinship and descent. The researcher records the relatives of an informant, including their ancestors and descendants, and details the social relationships between them. This is the primary technique for tracing lines of descent.
- **Focus Group Discussion:** This is a qualitative data collection technique where a group of people are asked about their perceptions, opinions, and beliefs on a particular topic. It is not used for tracing descent.
- **Pedigree:** While a pedigree chart is a diagrammatic representation of descent (often used in genetics to trace traits), the *technique* or *method* used by anthropologists to gather the information to create such charts and understand the social system is called genealogy. Genealogy is the broader research process.
- **Participant Observation:** This is the core ethnographic method of immersing oneself in a culture to understand it from an insider's perspective. While a researcher would use the genealogical method *during* participant observation, it is not the specific technique itself for tracing descent.

Step 3: Final Answer:

Genealogy is the dedicated, systematic method for tracing lines of descent and understanding kinship systems.

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:

This question requires knowledge of the geography of the Indus Valley Civilization (Harappan) sites, specifically matching major sites to the rivers or river basins they are associated with.

Step 2: Detailed Explanation:

- **A. Mitathal:** This is a Harappan site located in the Bhiwani district of Haryana. Geographically, this region is part of the Indo-Gangetic divide and is considered to be within the **Yamuna** river basin. So, **A matches with III.**
- **B. Kalibangan:** This major Harappan site is located in the Hanumangarh district of Rajasthan, on the southern bank of the now-dry **Ghaggar** river, which is often identified with the ancient Sarasvati river. So, **B matches with I.**
- **C. Rangpur:** This Harappan site is located in the Surendranagar district of Gujarat, on the peninsula of Saurashtra. It is situated on the bank of the **Sukha Bhadar** river. So, **C matches with IV.**
- **D. Lothal:** This was a prominent port city of the Harappan civilization, located in the Bhal region of modern Gujarat. It is situated near the Sabarmati River and its tributary, the Bhogavo, which flow into the **Gulf of Cambay**. Thus, it is geographically associated with the Gulf of Cambay. So, **D matches with II.**

Step 3: Final Answer:

The correct pairings are A-III, B-I, C-IV, 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 requires matching sociological processes with the broader social systems or concepts to which they are related.

Step 2: Detailed Explanation:

- **A. Parochialization:** This is a concept by McKim Marriott describing the downward devolution and localization of elements from the pan-Indian **Great Traditions**. So, **A matches with III**.
- **C. Service Caste:** In the traditional Indian village, specialized artisan and service castes (like potters, barbers) provided their services to landowning patrons in exchange for a fixed share of the harvest. This system of reciprocal exchange is known as the **Jajmani System**. So, **C matches with I**.
- **B. Open Status System:** An open status system is one where social mobility is possible. **Sanskritization**, a process described by M.N. Srinivas, is a form of cultural and social mobility where lower castes emulate the practices of higher castes to raise their own status within the hierarchy. It thus represents a path for mobility, relating it to the concept of an open (or at least, not entirely closed) status system. So, **B matches with II**.
- **D. Dominant Caste:** The concept of a dominant caste can be influenced by **Modernization**. While rooted in traditional land ownership, a caste's dominance can be achieved or enhanced through modern secular factors like Western education, jobs in administration, and political power acquired through democratic processes. So, **D matches with IV**.

Step 3: Final Answer:

Based on the analysis, the correct matches are A-III, B-II, C-I, 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:

This question addresses a classic example of natural selection in human populations. The persistence of the sickle-cell allele (HbS), which is harmful in the homozygous state, is explained by the advantage it confers in the heterozygous state in malaria-prone environments.

Step 2: Detailed Explanation:

- Individuals with two copies of the normal hemoglobin allele (AA) are highly susceptible to severe malaria.
- Individuals with two copies of the sickle-cell allele (SS) suffer from sickle-cell anemia, which is often fatal.
- Individuals who are heterozygous (AS) have one normal and one sickle-cell allele. They are largely asymptomatic for sickle-cell disease and also have significant protection against malaria.
- In areas where malaria is endemic, the heterozygotes (AS) have the highest fitness (survival and reproductive success) compared to both homozygotes (AA and SS).
- This situation, where natural selection favors the heterozygote and maintains both alleles in the population at a stable equilibrium, is called **balancing selection** (specifically, heterozygote advantage). It prevents the harmful allele from being eliminated and the advantageous allele from becoming fixed.

Step 3: Final Answer:

The co-existence of sickle-cell anemia and malaria, where the heterozygous genotype has the highest fitness, is a textbook case 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 identify the correct descriptions of the discipline of anthropology from a list of characteristics. Anthropology is a broad, holistic discipline with multiple subfields.

Step 2: Detailed Explanation:

- **A. Anthropology is an experimental science:** This is generally incorrect. While some subfields might use experimental setups (e.g., in primatology), the discipline as a whole, especially cultural anthropology, does not rely on controlled experiments due to ethical and practical limitations of experimenting on human societies.
- **B. Anthropology is a field science:** This is correct. Fieldwork—living among and studying people in their natural settings (for cultural anthropology) or excavating sites (for archaeology)—is the quintessential research method of anthropology.
- **C. Anthropology is a natural science:** This is partially correct. One of its major subfields, biological or physical anthropology, is a natural science, studying human evolution, biology, genetics, and primatology. Since this is a part of the discipline, the statement can be considered correct in the context of anthropology's holistic nature.
- **D. Anthropology is an observational science:** This is correct. The primary methods of anthropology, such as participant observation in cultural anthropology and the observation of material culture in archaeology, are based on careful and systematic observation.

Step 3: Final Answer:

Statements B, C, and D are all correct descriptions of different facets of the holistic discipline

of anthropology. Statement A is incorrect. Therefore, 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 ordering several hominin species according to their average cranial capacity, from smallest to largest. A major trend in human evolution is encephalization, the increase in brain size relative to body size.

Step 2: Detailed Explanation:

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

- **B. Homo floresiensis:** This species is known for its very small brain size, a result of insular dwarfism. The average cranial capacity is around 400 cm³.
- **C. Homo habilis:** Known as "handy man," this is an early species of Homo with an average cranial capacity of about 600-650 cm³.
- **D. Homo erectus:** This species shows a significant increase in brain size over H. habilis, with an average cranial capacity ranging from about 900 cm³ to 1100 cm³.
- **A. Homo sapiens:** Modern humans have the largest brain size among these options, with a current average of about 1350 cm³.

Step 3: Final Answer:

Arranging the species in order of increasing cranial capacity gives the following sequence: Homo floresiensis (B) ; Homo habilis (C) ; Homo erectus (D) ; 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:

Megaliths (from Greek *megas* "great" and *lithos* "stone") are prehistoric structures made of large stones, typically used for burial or ritual purposes. The question asks to identify which of the given terms represent types of megalithic structures.

Step 2: Detailed Explanation:

- **A. Cromlech:** This is a term for a megalithic structure consisting of a circle of standing stones. The most famous example is Stonehenge. It is a classic megalithic monument.
- **B. Topi kal:** This, meaning "hat stone," is a distinctive type of megalithic cist burial found in Kerala, South India. It consists of a hemispherical laterite stone resting on the ground, resembling a hat. It is a megalithic structure.
- **C. Hood-stone (Kudakallu):** Meaning "umbrella stone," this is another characteristic megalithic monument from Kerala. It consists of a large, dressed clinostat that rests on four smaller clinostats, forming a structure that looks like an umbrella. It is a megalithic burial monument.
- **D. Stambha:** This is the Sanskrit word for a pillar or column. While often monumental and made of stone (e.g., the Ashokan pillars), stambhas belong to the historical period of Indian architecture and are not classified within the prehistoric megalithic tradition, which is primarily associated with burial and ritual complexes.

Step 3: Final Answer:

Cromlech, Topi kal, and Hood-stone are all recognized types of megalithic structures from

prehistoric contexts. Stambha belongs to a different architectural and historical tradition. 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: Topikal 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 what is not considered a core characteristic of the sociological concept of "social structure." Social structure refers to the patterned network of relationships constituting a society and the institutions that arise from them.

Step 2: Detailed Explanation:

- **(A) Abstraction of empirical reality:** This is a key characteristic. Social structure is not the sum total of all human actions. Instead, it is an abstract model or framework that sociologists and anthropologists derive from observing the regularities and patterns in those actions (the empirical reality). This was central to Radcliffe-Brown's definition.
- **(C) Continuity:** Social structure is defined by its persistence over time. It provides a sense of order and predictability to social life and tends to endure even as the individuals who occupy positions within it change. This continuity is a fundamental feature.
- **(D) Objectivity:** Social structure is often treated as having an objective quality, existing externally to individuals and exerting a constraining force upon their behavior. This idea is central to the work of Émile Durkheim (social facts) and structural functionalists.
- **(B) Spatial dimensions:** This is not a core characteristic of the concept of social structure itself. While social life and interactions always occur in space and time, the "structure" (e.g., the kinship system, the class structure) is an abstract pattern of social relationships, not a physical or spatial arrangement. The arrangement of people in a room has spatial dimensions; the underlying kinship structure that relates them does not.

Step 3: Final Answer:

Abstraction, continuity, and objectivity are all widely accepted characteristics of the concept

of social structure. Spatial dimensions are not considered a defining feature of this abstract concept.

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:

This question requires matching statistical concepts or measures with the appropriate statistical test or calculation used to analyze them.

Step 2: Detailed Explanation:

- **A. Mean:** The **t-test** is a parametric statistical test used to compare the means of two groups to determine if they are significantly different from each other. So, **A matches with III.**
- **C. Median:** The **Mann-Whitney U test** is a non-parametric test used to compare the medians of two independent groups. It is often used when the assumptions of the t-test are not met. So, **C matches with I.**
- **D. Goodness of fit:** The **Chi-square (χ^2) test** is commonly used to determine if there is a significant difference between the expected frequencies and the observed frequencies in one or more categories. This is known as a "goodness of fit" test. So, **D matches with II.**
- **B. Proportion:** **Relative risk** is a measure of the risk of a certain event happening in one group compared to the risk of the same event happening in another group. It is calculated from

proportions or incidences. So, **B matches with IV**.

Step 3: Final Answer:

The correct pairings are A-III, B-IV, C-I, D-II. This 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:

Dating methods in archaeology are divided into two main types: relative and absolute. Relative dating methods can only determine if one object is older or younger than another; they do not provide a specific age in years. Absolute (or chronometric) dating methods provide a specific chronological age or age range in years.

Step 2: Detailed Explanation:

- **A. Fluorine dating:** This is a chemical method that measures the amount of fluorine absorbed by buried bones from the surrounding soil. Since the fluorine content of groundwater varies, this method cannot give an absolute age. It can only be used to determine if different bones from the same site were buried at the same time. This makes it a **relative** method.
- **B. Dendrochronology:** This is tree-ring dating. By counting the annual growth rings of trees and matching patterns, a precise calendar date can be determined. This makes it an **absolute** method.
- **C. Stratigraphy:** This is the study of rock and soil layers (strata). The law of superposition states that in an undisturbed sequence, the lower layers are older than the upper layers. This provides a sequence but not a specific age. It is a fundamental **relative** dating method.
- **D. Palynology:** This is the study of pollen grains. By analyzing the sequence of pollen types

in different layers of sediment, archaeologists can reconstruct past environments and establish a chronological sequence for different sites based on these pollen zones. It provides a sequence, making it a **relative** method.

Step 3: Final Answer:

Fluorine dating, stratigraphy, and palynology are all relative dating methods. Dendrochronology is an absolute dating method. Therefore, the correct answer includes A, C, and D.

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 archaeological term for a specific type of megalithic monument. A dolmen is a single-chamber tomb made of large upright stones supporting a capstone. The question describes a dolmen that is covered by a mound of earth.

Step 2: Detailed Explanation:

- **Passage grave:** This is a specific type of megalithic tomb where the burial chamber (which could be a dolmen) is connected to the outside by a long, narrow passage. The entire structure is then covered by a mound. While this fits the description, it's a very specific type.
- **Tumulus:** This is the general Latin term for a mound of earth and stones raised over a grave or graves. It is a synonym for a barrow. Any grave covered by a mound, including a dolmen, falls under this category. It is the most encompassing and correct term for the mound itself.
- **Stonehenge:** This is a specific prehistoric monument in England, a cromlech (stone circle), not a general term for a type of tomb.
- **Hallcist:** This is a Scandinavian term for a long cist (stone-lined grave), a different type of megalithic tomb.

Step 3: Final Answer:

The general and correct term for an earth mound built over a grave, such as 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:

This question requires matching significant anthropological/sociological studies or concepts related to Indian social groups with their respective authors.

Step 2: Detailed Explanation:

- **A. Kamars of Madhya Pradesh:** The classic ethnographic monograph "The Kamar" (1951), detailing the life of this tribe, was written by **S.C. Dube**. So, **A matches with III**.
- **B. Khallu - Maler - Gosain:** This refers to the ethnographic work on the Maler tribe of the Rajmahal hills in Jharkhand. The concept of the "Nature-Man-Spirit Complex" was developed through this study by **L.P. Vidyarthi**. Khallu and Gosain would be references from his fieldwork. So, **B matches with IV**.
- **C. Jati influence by tribes of Orissa:** **N.K. Bose**, in his influential work, particularly his paper "The Hindu Method of Tribal Absorption," extensively discussed how tribal groups in Orissa were integrated into the Hindu caste (Jati) society. So, **C matches with II**.
- **D. Thakur landlords - Brahmin cook:** This phrase encapsulates the process of Sanskritization, where a lower or middle-ranking group (like Thakur landlords in a village context) adopts the rituals and practices of a higher group (like Brahmins, signified by employing a Brahmin cook) to improve their own social status. This concept was famously developed by **M.N. Srinivas**. So, **D matches with I**.

Step 3: Final Answer:

The correct pairings are A-III, B-IV, C-II, D-I. This 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, Rampura 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 fundamental method of interpretation in archaeology. Archaeologists often find artifacts whose function is not immediately obvious. To understand how these past objects might have been used, they look for analogies in the present.

Step 2: Detailed Explanation:

- The method described is the use of analogy. Specifically, when the analogy is drawn from observing living or recent societies ("contemporary societies"), it is called **ethnographic analogy**. - Ethnography is the systematic study and description of human cultures. Therefore, using information from ethnographic studies to interpret the archaeological record is known as ethnographic analogy. - For example, if an archaeologist finds a particular type of polished stone in a prehistoric site, they might look at ethnographic accounts of recent stone-tool-using societies in similar environments and see if they used similar stones for a specific task, like burnishing pottery or processing hides.

Step 3: Final Answer:

The method described is precisely the 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:

This question tests knowledge of the geographical distribution of various tribal groups within India.

Step 2: Detailed Explanation:

- **A. Gonds:** The Gonds are one of the largest tribal groups in India, primarily concentrated in the central Indian states. They have a significant population in **Madhya Pradesh**, as well as in Maharashtra, Chhattisgarh, and Andhra Pradesh. So, **A matches with IV**.
- **B. Irula:** The Irula are a tribal group primarily found in the Nilgiri Hills region of Southern India. Their main population is in **Tamil Nadu**, with smaller groups in Kerala and Karnataka. So, **B matches with III**.
- **C. Bonda:** The Bonda (or Bondo) are a Particularly Vulnerable Tribal Group known for their isolated and traditional lifestyle. They are found in the hilly regions of the Malkangiri district in southern **Odisha**. So, **C matches with I**.
- **D. Ho:** The Ho people are a major tribe belonging to the Munda ethnic group. Their traditional homeland is the Singhbhum district of Jharkhand, which is part of the **Chota Nagpur Plateau**. So, **D matches with II**.

Step 3: Final Answer:

The correct pairings are A-IV, B-III, C-I, D-II. This 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 is a classic example of reciprocal exchange, famously documented by anthropologist Bronisław Malinowski in his book "Argonauts of the Western Pacific." It is a complex system of ceremonial exchange practiced by communities in the Trobriand Islands.

Step 2: Detailed Explanation:

The Kula exchange involves two types of prestigious, non-utilitarian items that circulate in opposite directions across a ring of islands:

- **Mwali:** These are **white shell armbands** or bracelets. They always travel in a counter-clockwise direction.
 - **Soulava:** These are long **red shell necklaces**. They always travel in a clockwise direction. These items are not kept permanently but are passed on to other exchange partners after a certain period, creating social bonds and enhancing the prestige of the participants.
- Option (A) correctly identifies these two items. Option (C) incorrectly swaps their colors. Options (B) and (D) mention "rings," which is an inaccurate description of the items.

Step 3: Final Answer:

The Kula ring consists of the exchange of white shell armbands (Mwali) and red shell necklaces (Soulava).

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 geological term that describes global changes in sea level. There are two main types of sea-level change.

Step 2: Detailed Explanation:

- **Eustatic change:** This refers to a global change in the amount of water in the oceans or a change in the shape of the ocean basins. The melting of glaciers and ice sheets during warmer periods (interglacials) releases vast amounts of water into the oceans, causing a global sea-level rise. Conversely, the formation of glaciers during ice ages locks up water, causing a global sea-level fall. This is a eustatic movement.
- **Isostatic change:** This refers to a local change in land level relative to the sea. For example, the immense weight of an ice sheet can depress the landmass beneath it. When the ice melts, the land slowly rebounds upwards over thousands of years. This is a local phenomenon and is called isostatic rebound or glacio-isostasy.
- The question describes a change in the "general sea level," which implies a global effect, correctly identified as eustatic.

Step 3: Final Answer:

The global rise and fall of sea level caused by the melting and forming of glaciers is known as eustatic change.

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 asks for the specific article in the Constitution of India that provides the formal definition of "Scheduled Tribes".

Step 2: Detailed Explanation:

- **Article 366** of the Indian Constitution is a "Definitions" clause, providing interpretations for various terms used throughout the document.
- **Clause (25) of Article 366** defines "Scheduled Tribes" as "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."
- It is important to note the relationship with Article 342. While Article 366(25) gives the definition, **Article 342** grants the President of India the power to specify which tribes or communities are to be considered Scheduled Tribes in each state or union territory.
- **Article 340** deals with the appointment of a Commission to investigate the conditions of backward classes.
- **Article 15(2)** prohibits discrimination against any citizen on grounds only of religion, race, caste, sex, place of birth or any of them.

Step 3: Final Answer:

The formal definition of Scheduled Tribes is located in Article 366 (25) of the Constitution.

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 arranging stone tools in a chronological sequence based on their technological development. This involves distinguishing between different phases of the Palaeolithic.

Step 2: Detailed Explanation:

- First, we must identify the period for each tool type. Hand-axes and cleavers are characteristic of the Lower Palaeolithic (specifically the Acheulean industry), while blade tools are the hallmark of the Upper Palaeolithic. Therefore, Blade tools (C) must be the last in the sequence. This eliminates option (D).
- Next, we need to order the Acheulean tools (A, B, D). The Acheulean period saw a long evolution in tool-making, from cruder early forms to highly refined later forms.
- **B. Flake cleaver:** Cleavers, large tools with a transverse cutting edge, are a fundamental part of the Acheulean toolkit, present from early to late stages.
- **A. Ovate hand-axe:** A symmetrical, oval-shaped hand-axe is a classic, well-made tool from the Middle Acheulean period, showing more control and planning than the earliest forms.
- **D. S-twist handaxe:** A hand-axe with a twisted or 'S'-shaped profile is a highly refined and specialized form. This feature is a marker of advanced flint-knapping techniques characteristic of the Late Acheulean.
- The logical technological progression is from a common, basic tool type (cleaver) to a classic, symmetrical form (ovate) and then to a hyper-refined, specialized form (S-twist).

Step 3: Final Answer:

The chronological sequence is: Flake cleaver (B) → Ovate hand-axe (A) → S-twist handaxe (D) → Blade tools (C). This corresponds to 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 tests knowledge of a key event in the history of science: the recognition of the discovery of the structure of DNA. It's important to distinguish the year of discovery from the year the Nobel Prize was awarded.

Step 2: Detailed Explanation:

- James Watson and Francis Crick published their famous paper proposing the double helix structure of DNA in the journal *Nature* in **1953**. This is the year of the discovery.
- Their model was heavily reliant on the X-ray diffraction images of DNA produced by Rosalind Franklin and Maurice Wilkins at King's College London.
- The Nobel Prize in Physiology or Medicine was awarded for this discovery in the year **1962**.
- The prize was shared by James Watson, Francis Crick, and Maurice Wilkins. Rosalind Franklin had passed away in 1958, and Nobel Prizes are not awarded posthumously.

Step 3: Final Answer:

The Nobel Prize for the discovery of the structure of DNA was awarded in 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:

Sociology and anthropology make a fundamental distinction between the family a person is born into and the family they form as an adult.

Step 2: Detailed Explanation:

- **Family of orientation:** This is the family into which an individual is born and grows up. It is where one receives primary socialization and gets their "orientation" in life, including their initial status and cultural norms.
- **Family of procreation:** This is the family an individual forms by marrying and having

children. It is the family established for the purpose of "procreating" (having offspring).

- **Polygynous and Polyandrous families** refer to types of marital structure (one man with multiple wives, and one woman with multiple husbands, respectively), not the distinction between one's birth family and adult family.

Step 3: Final Answer:

The family in which one is born is known as 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 anthropologist Leslie White viewed culture as a system and proposed a model to analyze its different parts. His model is tripartite, consisting of three main components or subsystems.

Step 2: Detailed Explanation:

Leslie White's three components of culture are:

1. **Technological subsystem:** This is the base of the cultural system. It consists of the tools, techniques, and knowledge that people use to harness energy and interact with their environment. White believed this layer determines the form of the other two.
2. **Sociological subsystem:** This is the middle layer, which consists of the interpersonal relations expressed in patterns of behavior. It includes social institutions like kinship, political organization, and economic systems.
3. **Ideological subsystem:** This is the top layer, composed of ideas, beliefs, values, and knowledge. It includes religion, philosophy, art, and mythology.

Analyzing the options: - (A) Sociological aspect is a correct component. - (B) Economic aspect is considered a part of the sociological subsystem. - (C) Technological aspect is a correct component. - (D) **Sentimental aspect** is not a term used by White to describe one of his three main subsystems. While sentiments are part of culture, they would be included within the ideological subsystem, but "sentimental aspect" is not the name of the component itself.

Step 3: Final Answer:

"Sentimental aspect" is not one of the three core cultural components in Leslie White's theoretical model.

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 archaeological cultures and historical periods of India in the correct chronological sequence, from earliest to latest.

Step 2: Detailed Explanation:

First, identify the nature of each item. A, C, and D are Chalcolithic (Copper-Stone Age) cultures, while B is a historical period. The Chalcolithic period precedes the historical period, so B must be the last in the sequence. This immediately narrows down the possibilities.

Next, let's establish the chronology of the Chalcolithic cultures, which are mainly found in Central India and Rajasthan:

- **C. Kayatha culture:** Dated to c. 2450–1700 BCE. It is considered the earliest Chalcolithic culture in the Malwa region.
- **A. Ahar culture (or Banas culture):** Dated to c. 3000–1500 BCE. It is largely contemporary with the Kayatha culture but is often placed after it in regional sequences.
- **D. Malwa culture:** Dated to c. 1900–1400 BCE. This culture follows the Kayatha and Ahar phases and is the most widespread Chalcolithic culture of Central India.
- **B. Sunga-Kusana-Gupta:** This represents successive dynasties of the Early Historical and Classical periods of India, spanning from c. 2nd century BCE to the 6th century CE. This is

clearly the latest period.

Step 3: Final Answer:

The correct chronological order from earliest to latest is: Kayatha culture (C) → Ahar culture (A) → Malwa culture (D) → Sunga-Kusana-Gupta period (B). The sequence is 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 requires knowledge of the publication dates of some of the most foundational and influential books in the history of anthropology.

Step 2: Detailed Explanation:

Let's establish the publication year for each book:

- **C. Primitive Culture:** Written by Edward Burnett Tylor, this seminal work of 19th-century cultural evolutionism was published in **1871**.
- **A. The Golden Bough:** Written by Sir James Frazer, the first edition of this massive comparative study of mythology and religion was published in **1890**.
- **D. Argonauts of the Western Pacific:** Written by Bronisław Malinowski, this is the classic ethnographic work that established the method of participant observation. It was published in **1922**.
- **B. The Elementary Structures of Kinship:** Written by Claude Lévi-Strauss, this book is a cornerstone of structuralist anthropology and was published in **1949**.

Step 3: Final Answer:

Arranging the books in chronological order of their publication:

1. Primitive Culture (1871) - C
2. The Golden Bough (1890) - A
3. Argonauts of the Western Pacific (1922) - D
4. The Elementary Structures of Kinship (1949) - 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 stone tool manufacturing techniques that were used during the Palaeolithic and Mesolithic periods. It's important to distinguish these from techniques characteristic of the later Neolithic period.

Step 2: Detailed Explanation:

- **A. Anvil stone:** The anvil technique (or block-on-block technique) is a basic percussion method where a core is struck against a stationary stone (the anvil). It is one of the oldest and simplest techniques, used throughout the Palaeolithic.
- **B. Grinding and polishing:** This technique involves abrading the surface of a stone tool to create a smooth, sharp, and durable edge. It is the defining technological innovation of the **Neolithic** period (the "New Stone Age"), used to make tools like polished stone axes. It is not characteristic of the Palaeolithic or Mesolithic.
- **C. Punching (Indirect Percussion):** The punch technique involves placing an intermediary tool (a punch, made of antler or bone) on the core and striking the punch with a hammer.

This allows for fine control and the production of long, regular blades, a hallmark of the Upper Palaeolithic.

- **D. Cylindrical hammer (Soft Hammer):** Using a softer hammer made of wood, bone, or antler (a cylindrical hammer is a type of soft hammer) allows for the removal of thinner, flatter flakes than a stone hammer. This technique was developed during the Palaeolithic (Acheulean) and refined in later periods.

Step 3: Final Answer:

The anvil stone, punching, and cylindrical hammer techniques are all associated with the Palaeolithic and Mesolithic. Grinding and polishing is a Neolithic technique. Therefore, the correct answer includes A, C, and D.

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 asks to identify a group of anthropologists who belong to the same school of thought. This requires knowledge of the major theoretical movements in 20th-century American anthropology.

Step 2: Detailed Explanation:

- **A. James Frazer:** He was a Scottish anthropologist and a leading figure of 19th-century **classical evolutionism**. His work is characterized by the comparative method and armchair anthropology, which was later heavily criticized.

- **B. Ruth Benedict, C. Margaret Mead, and D. A. Kardiner** are all central figures in the **Culture and Personality** school of thought, which flourished in American anthropology

in the 1930s and 1940s. This school, heavily influenced by Freudian psychology, explored the relationship between cultural patterns and individual personality formation. - Ruth Benedict (author of "Patterns of Culture") and Margaret Mead (author of "Coming of Age in Samoa") were students of Franz Boas and focused on how culture shapes personality. - Abram Kardiner was a psychoanalyst who collaborated closely with anthropologists like Ralph Linton to develop the concept of "basic personality structure," a core idea of this school.

Step 3: Final Answer:

Ruth Benedict, Margaret Mead, and A. Kardiner are all associated with the Culture and Personality school of thought. James Frazer belongs to an earlier and distinct school (classical evolutionism). Therefore, B, C, and D form the correct group.

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: (B) A, D, C, B

Solution:

Step 1: Understanding the Concept:

The question asks to arrange several key concepts from the anthropology of India in the chronological order of their proposal or major publication.

Step 2: Detailed Explanation:

Let's find the approximate date of proposal for each concept:

- **A. Great and little traditions:** Proposed by Robert Redfield, this concept was applied to India by Milton Singer and McKim Marriott in the edited volume "Village India," which was published in **1955**.
- **B. Dominant caste:** Proposed by M.N. Srinivas, this concept was also formally introduced

in **1955** in his paper "The Social System of a Mysore Village" in the same "Village India" volume, but gained wider currency with his paper "The Dominant Caste in Rampura" in **1959**. So, its proposal is considered to be in the mid-to-late 1950s.

- **C. Sacred complex:** Proposed by L.P. Vidyarthi, this concept was developed in his doctoral thesis and published in his book "The Sacred Complex in Hindu Gaya" in **1961**.

- **D. Nature - Man - Spirit Complex:** Proposed by L.P. Vidyarthi, this concept was developed from his study of the Maler tribe and published in his book "The Maler: A Study in Nature-Man-Spirit Complex of a Hill Tribe" in **1963**.

Let's re-evaluate the sequence. There seems to be an issue as the concepts appeared very close to each other. Let's look at the seminal publications. Redfield's concepts of Folk Society and Civilization were developed in the 1940s and 50s. The application to India in "Village India" (1955) makes it one of the earliest among the options. Srinivas introduced 'Dominant Caste' in the same 1955 volume. Vidyarthi's 'Sacred Complex' work was based on fieldwork in the mid-50s, published in 1961. His 'Nature-Man-Spirit Complex' work followed, published in 1963. The probable intended chronological order of *influence* and formal publication is:

1. Great and Little Traditions (Redfield's original ideas predate 1955, applied to India in 1955).
2. Dominant Caste (Srinivas, 1955/1959).
3. Sacred Complex (Vidyarthi, 1961).
4. Nature-Man-Spirit Complex (Vidyarthi, 1963).

Based on this, A, B, C, D would be the sequence. Let's re-examine the options. None match A, B, C, D perfectly. Let's reconsider the provided options. Option (B) suggests A, D, C, B. This order is not logically sound based on publication dates. There might be an error in the question or options. However, if we must choose the best fit, let's analyze again.

A. Great and little traditions (1955)

B. Dominant caste (1955/59)

C. Sacred complex (1961)

D. Nature-Man-Spirit Complex (1963)

The order is A, B, C, D. Since this is option 1, let's assume it's the correct one.

Let's re-check the provided solution which is (B) A, D, C, B. This sequence is (1955), (1963), (1961), (1955/59). This is chronologically incorrect. Let us follow the logical order. The most logical order is A, B, C, D.

If we strictly follow option (B) which states the answer is A, D, C, B, we must try to justify it. There is no clear justification for this order based on publication dates. It seems the question or the provided key is flawed. We will proceed with the logically derived correct answer.

Correction based on Logical Deduction:

1. **A. Great and little traditions (1955)**

2. **B. Dominant caste (1955/1959)**

3. **C. Sacred complex (1961)**

4. **D. Nature - Man - Spirit Complex (1963)**

The sequence is A, B, C, D. This is option (1).

Given the provided options, there is a high probability of an error in the question key. Let's assume the order intended was A (1955), followed by C (1961), D (1963), and B (considering the 1959 paper as the key reference, putting it just before Vidyarthi's work). This is still not reflected in the options. Let's choose the most plausible option based on the publication dates:

A, B, C, D.

(Revisiting the provided key for the sake of completeness. If the answer is B: A, D, C, B. The order would be 1955, 1963, 1961, 1959. This is impossible. Let's adhere to the correct chronological order.) The correct sequence is C, B, D, A.

Step 3: Final Answer:

The correct chronological order of publication is: Great and little traditions (1955), Dominant Caste (1955/1959), Sacred Complex (1961), and Nature-Man-Spirit Complex (1963). The correct sequence 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 asks to arrange different kinship-based social groups in order of increasing size and inclusiveness. This involves understanding the standard anthropological model of unilineal descent group structure.

Step 2: Detailed Explanation:

The typical hierarchy of descent groups, from smallest to largest, is as follows:

- **D. Family:** The smallest and most fundamental unit of kinship, typically a nuclear or extended family.
- **A. Lineage:** A unilineal descent group whose members can trace their descent from a common ancestor through known genealogical links. It is composed of several related families.
- **C. Clan:** A unilineal descent group whose members claim descent from a common ancestor,

but the genealogical links are not actually traced. The common ancestor is often a mythical figure or a totem. A clan is typically composed of several related lineages.

- **B. Phratry:** A grouping of two or more clans that are thought to be related. This is a larger, more inclusive, but often looser social unit than a clan. (A moiety is when a society is divided into two phratries).

Step 3: Final Answer:

Arranging these in expanding order (smallest to largest) gives the sequence:

Family (D) → Lineage (A) → Clan (C) → Phratry (B).

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

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:

In population genetics, an isolate is a population with limited or no gene flow with other populations. This isolation can be caused by geographical barriers (e.g., mountains, oceans) or social/cultural factors (e.g., rules of endogamy based on religion, caste, or language). The question asks for the best term to describe such a group.

Step 2: Detailed Explanation:

- **Breeding isolate:** This is a population within which mating is largely confined to members of the group. This confinement can be due to either geographical or social barriers. The consequence of this isolation is the formation of a distinct breeding population. This term accurately encompasses both conditions mentioned in the question.

- **Ostracized isolate:** "Ostracized" is a social term meaning shunned or excluded. While an ostracized group might become a social isolate, it is not a standard scientific term in population genetics.

- **Geographical isolate:** This term only refers to populations isolated by physical barriers, which is only one part of the question's definition ("geographically **and/or** socially").

- **Reproductive isolate:** This term typically refers to a more extreme form of isolation where populations have evolved to a point where they can no longer interbreed to produce fertile offspring (i.e., they are different species). The question implies reduced gene flow, not necessarily a complete biological barrier to reproduction.

Step 3: Final Answer:

The term "breeding isolate" best describes a population that is isolated either geographically or socially, as it focuses on the outcome of that isolation: the creation of a distinct mating group.

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

Correct Answer: B, D, A, C

Solution:

Step 1: Understanding the Concept:

This question asks for the correct chronological sequence of the four major glacial periods of the Pleistocene epoch as established for the European Alps. This classic sequence was proposed by Albrecht Penck and Eduard Brückner.

Step 2: Detailed Explanation:

The four major Alpine glacial stages are named after rivers in southern Germany. The correct order from oldest to most recent is:

1. **Günz** glacial stage (oldest)
2. **Mindel** glacial stage
3. **Riss** glacial stage
4. **Würm** glacial stage (most recent, corresponding to the last ice age)

Step 3: Final Answer:

Matching the names to the letters provided:

- B. Günz
- D. Mindel
- A. Riss

- C. Würm

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:

Prophase I of meiosis is a complex phase where homologous chromosomes pair and exchange genetic material. It is divided into five distinct sub-stages. The question asks for the correct sequence of four of these stages.

Step 2: Detailed Explanation:

The five stages of Prophase I occur in the following order:

1. **Leptotene:** Chromosomes begin to condense and become visible.
2. **Zygotene:** Homologous chromosomes pair up (synapsis) to form bivalents.
3. **Pachytene:** Crossing over occurs, where genetic material is exchanged between non-sister chromatids.
4. **Diplotene:** Homologous chromosomes begin to separate but remain attached at points called chiasmata (sites of crossing over).
5. **Diakinesis:** Chromosomes fully condense, and the nuclear envelope breaks down.

Step 3: Final Answer:

Matching the given stages to the correct order:

- B. Leptotene (1st)
- A. Zygotene (2nd)
- D. Pachytene (3rd)

- C. Diplotene (4th)

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

Quick Tip

A useful mnemonic for the stages of Prophase I is: "Lazy Zebras Push Down Daisies" for Leptotene, Zygotene, Pachytene, Diplotene, Diakinesis.

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 asks about the specific chromosomal event in human evolution that led to the formation of chromosome 2. Humans have 23 pairs of chromosomes, while other great apes (like chimpanzees) have 24 pairs. This difference is explained by a fusion event.

Step 2: Detailed Explanation:

- Cytogenetic evidence shows that human chromosome 2 corresponds to two separate smaller chromosomes in other great apes.
- It is hypothesized that in the human lineage, two ancestral acrocentric (where the centromere is near one end) chromosomes fused end-to-end to form the large, metacentric (centromere in the middle) chromosome 2 that we see today.
- This specific type of chromosomal rearrangement, where two acrocentric chromosomes fuse at or near their centromeres, is called a **Robertsonian translocation**. Evidence for this includes the presence of a defunct, relic centromere and telomere sequences (normally found at the ends of chromosomes) in the middle of human chromosome 2.
- "Translocation" is a general term, while "Robertsonian translocation" is the precise term for this event. "Chromosomal replication" and "elongation" are incorrect processes.

Step 3: Final Answer:

The formation of human chromosome 2 is a classic example of a Robertsonian translocation event in 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:

The question requires ordering the major European Palaeolithic cultural traditions from oldest to most recent. This covers the Lower, Middle, and Upper Palaeolithic periods.

Step 2: Detailed Explanation:

Let's place each culture in its correct period:

- **C. Acheulean:** This is the main culture of the **Lower Palaeolithic**, characterized by the production of hand-axes. It is the oldest in this list.
- **B. Mousterian:** This culture defines the **Middle Palaeolithic** and is associated with Neanderthals. It follows the Acheulean.
- **D. Aurignacian:** This is the earliest culture of the **Upper Palaeolithic** in Europe, associated with the arrival of anatomically modern humans. It follows the Mousterian.
- **A. Solutrean:** This is a later culture within the **Upper Palaeolithic**, famous for its exquisite, finely worked leaf-shaped points. It comes after the Aurignacian (and the intervening Gravettian culture).

Step 3: Final Answer:

The correct chronological order from oldest to newest is:

Acheulean (C) → Mousterian (B) → Aurignacian (D) → Solutrean (A).

The correct sequence 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:

Neo-Darwinism, also known as the modern evolutionary synthesis, is the fusion of Charles Darwin's theory of evolution by natural selection with Gregor Mendel's principles of genetics. The question asks to identify the key figures who laid the mathematical and theoretical groundwork for this synthesis in the early 20th century, founding the field of population genetics.

Step 2: Detailed Explanation:

- **A. R.A. Fisher, B. Sewall Wright, and D. J.B.S. Haldane** are universally recognized as the three principal founders of theoretical population genetics. Working largely independently in the 1920s and 1930s, they developed the mathematical framework to show how Mendelian inheritance and natural selection could work together to produce evolutionary change.
- **C. Gregor Mendel** was the 19th-century pioneer who discovered the basic principles of heredity. His work was essential *for* the modern synthesis, but he lived and worked long before the synthesis occurred and was not one of its architects. Neo-Darwinism is the integration of his work with Darwin's, a task carried out by later scientists.

Step 3: Final Answer:

The founders of theoretical population genetics and developers of neo-Darwinism are R.A. Fisher, Sewall Wright, and J.B.S. Haldane. Thus, the correct option includes 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 of the listed Indian tribes belong to the same major language family. The primary language families for tribal groups in India are Dravidian, Austroasiatic, and Tibeto-Burman.

Step 2: Detailed Explanation:

Let's identify the linguistic affiliation of each tribe:

- **A. Chenchus:** This tribe resides in the states of Andhra Pradesh and Telangana. They speak the Chenchu language, which is a member of the **Dravidian** language family.
- **B. Mikir (Karbi):** This tribe is primarily found in Assam. They speak the Karbi language, which belongs to the **Tibeto-Burman** branch of the Sino-Tibetan language family.
- **C. Kadar:** This tribe lives in the states of Kerala and Tamil Nadu. Their language, Kadar, is classified as a **Dravidian** language.
- **D. Koraga:** This tribe is found in Karnataka and Kerala. The Koraga language is also a member of the **Dravidian** language family.

Step 3: Final Answer:

The Chenchus, Kadar, and Koraga tribes all speak languages belonging to the Dravidian family. The Mikir tribe speaks a Tibeto-Burman language. Therefore, A, C, and D share the same linguistic group.

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 requires matching seminal books in anthropology and sociology with their correct authors. This tests knowledge of the history of the discipline and its foundational texts.

Step 2: Detailed Explanation:

- **A. Elementary Forms of the Religious Life (1912):** This is a classic work on the sociology of religion, in which the sacred-profane dichotomy was explored. It was written by the French sociologist **Emile Durkheim**. So, **A matches with III**.
- **B. Growing Up in New Guinea (1930):** This is an influential ethnographic study focusing on childhood and socialization. It was written by the American cultural anthropologist **Margaret Mead**. So, **B matches with IV**.
- **C. Magic, Science and Religion (1925):** This is a famous essay (and later a collection of essays) that analyzes the different functions of magic, science, and religion in society. It was written by the Polish-British anthropologist **Bronisław Malinowski**. So, **C matches with II**.
- **D. The Andaman Islanders (1922):** This is a classic ethnography that laid the foundations of the structural-functionalist school of thought. It was written by the British social anthropologist **A.R. Radcliffe-Brown**. So, **D matches with I**.

Step 3: Final Answer:

The correct pairings are A-III, B-IV, C-II, and D-I. This 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:

This question requires matching prehistoric stone tool manufacturing techniques with their characteristic products or associated artifacts.

Step 2: Detailed Explanation:

- **B. Levelloisian:** This is a distinctive Middle Palaeolithic prepared-core technique. The core is carefully shaped, and the final prepared core, just before the desired flake is struck, often resembles a tortoise shell. Thus, it is called a **Tortoise core**. So, **B matches with IV**.
- **C. Grinding and polishing:** This is the hallmark technique of the Neolithic period, used to create durable and smooth tools from hard stones. A **Shoulder celt** is a type of polished stone axe from the Neolithic, made using this technique. So, **C matches with I**.
- Based on B-IV and C-I, we can inspect the options. Only option (D) has this combination. Let's verify the remaining matches in option (D).
- **A. Fluting:** This technique removes a long, longitudinal flake. In the context of blade production, creating a ridge down the center of a core by flaking from both sides prepares it for removing the first blade. This first blade is known as a **Crest-guiding blade**. So, **A matches with III**.

- **D. Pressure flaking:** This is a refined technique for retouching tools or removing small, thin flakes. It can be used to shape and sharpen tools like **Parallel-sided blades** after they have been struck from a core. So, **D matches with II**.

Step 3: Final Answer:

The correct pairings are A-III, B-IV, C-I, and D-II. This 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 about the standard methodologies used in auxology (the study of human growth). The core goal is to understand growth patterns, such as the velocity of growth and the timing of growth spurts.

Step 2: Detailed Explanation:

There are three canonical methods for studying human growth patterns:

- **Cross-sectional method:** Different individuals are measured at various ages at a single point in time to construct a population-level growth curve.
- **Longitudinal method:** The same individuals are measured repeatedly over a period of time. This is the only method that can accurately study individual growth patterns and velocity.
- **Mixed Longitudinal method:** A combination of the above, where different age cohorts are followed for overlapping, shorter periods.

Now let's analyze the given option:

- **Repeat cross-sectional method:** This involves conducting a series of cross-sectional studies at different points in time (e.g., in 1980, 2000, and 2020). While this is a valid research design, its primary purpose is not to understand the fundamental pattern of human growth itself, but rather to study **secular trends**—that is, how the growth patterns of a population have changed over generations. The other three methods are directly designed to establish the pattern of growth for a given cohort or individual. Therefore, in the context of understanding

the fundamental growth pattern, the repeat cross-sectional method is the outlier.

Step 3: Final Answer:

While all are valid research designs, the Cross-sectional, Longitudinal, and Mixed Longitudinal methods are the primary techniques used to establish and understand growth patterns. The Repeat Cross-sectional method is used to study changes in these patterns over time (secular trends) and is thus not a primary method for understanding the growth 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.