CUET PG 2026 Geography Question Paper with Solutions(Memory Based)

Time Allowed :1 Hour 30 Mins	Maximum Marks :300	Total Questions :75

General Instructions

Read the following instructions very carefully and strictly follow them:

- The exam lasts 90 minutes (1 hour 30 minutes).
- There are 75 Multiple Choice Questions (MCQs) to be answered.
- +4 marks for every correct answer. -1 mark (negative marking) for every incorrect answer. 0 marks for unanswered or un-attempted questions.
- For any discrepancy in questions, the English version is considered final (except for language-specific papers).
- Click one of the four options to choose an answer.
- You must click "Save & Next" to confirm your response. Only saved answers are considered for evaluation.
- Use "Mark for Review & Next" to flag a question for later. You can unselect or change your answer using the "Clear Response" button.
- All calculations must be done on the Rough Sheets provided at the centre. These must be returned to the invigilator after the exam.

1. Which layer of the Earth's atmosphere contains the ozone layer?
(A) Troposphere
(B) Stratosphere
(C) Mesosphere
(D) Thermosphere

Correct Answer: (2) Stratosphere

Solution:
Concept: The Earth's atmosphere is divided into several layers based on temperature variation with altitude. Each layer has distinct characteristics and plays a different role in protecting and sustaining life on Earth. The main layers of the atmosphere are:

- **Troposphere:** The lowest layer of the atmosphere where weather phenomena such as clouds, rain, and storms occur. It extends from the Earth's surface up to about 8–18 km depending on latitude.
- **Stratosphere:** Located above the troposphere and extending roughly from 18 km to about 50 km above the Earth's surface. This layer contains the **ozone layer**, which absorbs most of the Sun's harmful ultraviolet (UV) radiation.

- **Mesosphere:** Extends from about 50 km to 85 km above the Earth. It is the layer where most meteors burn up due to friction with atmospheric particles.
- **Thermosphere:** Located above the mesosphere, extending from about 85 km to several hundred kilometers. This layer contains ionized gases and is where phenomena like auroras occur.

The **ozone layer** is a region with a high concentration of ozone (O_3) molecules. These molecules absorb harmful ultraviolet radiation from the Sun, particularly UV-B and UV-C rays. Without this protective layer, most life on Earth would be severely affected due to increased exposure to harmful radiation.
Step 1: Understanding where ozone concentration is highest.
The ozone layer is primarily concentrated between approximately 15 km and 35 km above the Earth's surface. This altitude range lies within the **stratosphere**.
Step 2: Eliminating the incorrect options.

- **Troposphere:** Contains weather systems but does not contain the ozone layer. Small amounts of ozone may exist here but not as a protective layer.
- **Mesosphere:** Too high above the Earth; ozone concentration is negligible.
- **Thermosphere:** Extremely thin air with ionized particles; ozone does not accumulate here.

Step 3: Identifying the correct atmospheric layer.
Since the ozone layer exists in the region between 15–35 km altitude and this region lies within the **stratosphere**, the correct answer is:

Stratosphere

Quick Tip

Remember the order of atmospheric layers from the Earth's surface upward:
Troposphere → **Stratosphere** → **Mesosphere** → **Thermosphere** → **Exosphere**
A useful trick: **"TSMTE"**. The **Ozone Layer lies in the Stratosphere**, which is the second layer of the atmosphere.

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2. Which landform is created by the erosional work of a glacier?
(A) Delta
(B) U-shaped Valley
(C) Sand Dune
(D) Flood Plain

Correct Answer: (2) U-shaped Valley

Solution:
Concept: Glaciers are large masses of ice that move slowly over land due to gravity. As they

move, they erode the underlying rocks through processes such as **plucking** and **abrasion**. These erosional processes carve distinctive landforms on the Earth's surface.
Major **erosional landforms formed by glaciers** include:

- **U-shaped valleys**
- Cirques
- Arêtes
- Horns

Among these, the **U-shaped valley** is the most common and characteristic feature produced by glacial erosion.
Glaciers widen and deepen pre-existing river valleys. Rivers usually create **V-shaped valleys**, but when glaciers pass through these valleys, their immense weight and slow movement reshape them into **broad, flat-bottomed valleys with steep sides**, forming a U-shaped cross-section.
Thus, a U-shaped valley clearly indicates that the landform was shaped by glacial erosion.
Step 1: Understanding glacial erosion.
When glaciers move downhill, they erode rock surfaces by:

- **Plucking:** Ice freezes into rock cracks and pulls pieces of rock away.
- **Abrasion:** Rocks embedded in the glacier scrape and grind the valley floor and sides.

These processes significantly reshape the landscape.
Step 2: Identifying the landform produced by glaciers.
Due to intense erosion, glaciers convert narrow V-shaped river valleys into **wide U-shaped valleys**. These valleys have:

- A flat or gently rounded valley floor
- Steep valley sides
- A broad U-shaped cross section

Hence, the landform produced by glacial erosion is a **U-shaped valley**.
Step 3: Eliminating incorrect options.

- **Delta:** Formed by deposition of sediments by rivers at their mouths.
- **Sand Dune:** Formed by the depositional work of wind in desert regions.
- **Flood Plain:** Created by river deposition during floods.

None of these landforms are formed by glacial erosion.

Quick Tip

A simple way to remember:
River erosion → V-shaped valleys
Glacial erosion → U-shaped valleys
If you see a **broad valley with steep sides and a flat floor**, it is most likely a **glacially formed U-shaped valley**.

3. Who proposed the Continental Drift Theory in 1912?
(A) Isaac Newton
(B) Alfred Wegener
(C) Charles Darwin
(D) Alexander von Humboldt

Correct Answer: (2) Alfred Wegener

Solution:
Concept: The **Continental Drift Theory** is an important theory in physical geography and geology that explains the movement of continents over geological time. It was first proposed in **1912 by the German meteorologist and geophysicist Alfred Wegener**.
According to this theory, the continents were once joined together to form a single large landmass known as **Pangaea**. Over millions of years, this supercontinent gradually broke apart and the individual continents slowly drifted to their present positions on the Earth's surface.
Wegener presented this idea to explain the similarities in coastlines, fossils, and rock formations found on continents that are now separated by oceans.
Step 1: Understanding the Continental Drift Theory.
The theory states that:

- All continents were once part of a single supercontinent called **Pangaea**.
- Around **200 million years ago**, Pangaea began to break apart.
- The fragments slowly drifted across the Earth's surface and formed the modern continents.

This gradual movement of continents is referred to as **continental drift**.
Step 2: Evidence provided by Wegener.
Alfred Wegener supported his theory with several types of evidence:

- **Jigsaw Fit of Continents:** The coastlines of continents such as South America and Africa appear to fit together like puzzle pieces.
- **Fossil Evidence:** Identical fossils of plants and animals have been discovered on continents that are now widely separated by oceans.
- **Rock and Mountain Evidence:** Similar rock structures and mountain ranges are found across different continents.
- **Paleoclimatic Evidence:** Evidence of ancient climates, such as glacial deposits in present-day tropical regions, supports the idea that continents were once located in different positions.

Step 3: Identifying the scientist who proposed the theory.
Among the given options:

- **Isaac Newton** was a physicist known for the laws of motion and gravitation.
- **Charles Darwin** proposed the theory of evolution by natural selection.
- **Alexander von Humboldt** was a geographer known for his contributions to biogeography.

- **Alfred Wegener** proposed the **Continental Drift Theory in 1912**.

Therefore, the correct answer is:

Alfred Wegener

Quick Tip

Key Fact to Remember:
1912 — Alfred Wegener — Continental Drift Theory
He proposed that all continents were once part of a supercontinent called **Pangaea**, which later split and drifted apart to form the present-day continents.

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4. What is the correct sequence of coal types from lowest to highest carbon content?
(A) Lignite → Peat → Bituminous → Anthracite
(B) Peat → Lignite → Bituminous → Anthracite
(C) Peat → Bituminous → Lignite → Anthracite
(D) Lignite → Bituminous → Peat → Anthracite

Correct Answer: (2) Peat → Lignite → Bituminous → Anthracite

Solution:
Concept: Coal is a fossil fuel formed from the remains of plants that lived millions of years ago. Over long geological periods, these plant remains were buried under layers of sediments and subjected to high pressure and temperature. This process gradually converted the plant material into different types of coal.
The transformation of plant material into coal is known as **coalification**. During coalification, the **carbon content increases**, while moisture and volatile substances decrease. As a result, coal types are classified based on their **carbon percentage and calorific value**.
The major types of coal in increasing order of carbon content are:

- **Peat**
- **Lignite**
- **Bituminous**
- **Anthracite**

Each successive stage contains a higher percentage of carbon and produces more heat when burned.
Step 1: Understanding the stages of coal formation.
Coal formation occurs in stages as pressure and temperature increase over time:

- **Peat:** This is the earliest stage of coal formation. It contains the lowest carbon content and a high amount of moisture. Peat is partially decayed plant material.
- **Lignite:** Also called *brown coal*. It contains more carbon than peat but still has relatively high moisture content.

- **Bituminous Coal:** This is the most widely used type of coal. It has higher carbon content and greater heating value than lignite.
- **Anthracite:** This is the highest quality coal with the **maximum carbon content** and the highest calorific value. It burns with a clean, smokeless flame.

Step 2: Arranging coal types in increasing carbon content.
From lowest to highest carbon percentage:

$$\text{Peat} \rightarrow \text{Lignite} \rightarrow \text{Bituminous} \rightarrow \text{Anthracite}$$

Thus, the correct sequence is:

$$\boxed{\text{Peat} \rightarrow \text{Lignite} \rightarrow \text{Bituminous} \rightarrow \text{Anthracite}}$$

Step 3: Checking the given options.
Among the given options, option (B) correctly represents the increasing order of carbon content in coal types.

Quick Tip

A simple way to remember the sequence of coal types:
Peat → Lignite → Bituminous → Anthracite
You can remember it using the mnemonic: **"Please Learn Basic Analysis"** (Peat, Lignite, Bituminous, Anthracite)
Carbon content and heating value increase in this order.

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5. In which stage of the Demographic Transition Model do birth and death rates both become low?
(A) Stage I – High Stationary Stage
(B) Stage II – Early Expanding Stage
(C) Stage III – Late Expanding Stage
(D) Stage IV – Low Stationary Stage

Correct Answer: (4) Stage IV – Low Stationary Stage

Solution:
Concept: The **Demographic Transition Model (DTM)** explains how population growth changes over time as a country develops economically and socially. It describes the transition from high birth and death rates to low birth and death rates.
The model is generally divided into **four stages**, each representing a different pattern of population growth.

- **Stage I – High Stationary Stage:** Both birth rate and death rate are very high. Population growth is slow due to frequent diseases, poor healthcare, and limited food supply.

- **Stage II – Early Expanding Stage:** Death rates begin to fall rapidly due to improvements in medical facilities, sanitation, and food production. Birth rates remain high, leading to rapid population growth.
- **Stage III – Late Expanding Stage:** Birth rates begin to decline because of urbanization, improved education, family planning, and changing social values. Population growth starts slowing down.
- **Stage IV – Low Stationary Stage:** Both birth rates and death rates become **low**. Population growth becomes stable or very slow.

Countries with advanced economies and better healthcare systems usually fall into Stage IV.
Step 1: Understanding when both birth and death rates are low.
In the early stages of demographic transition:

- Birth rates remain high.
- Death rates gradually decline.

However, in the later stage of development, improvements in education, healthcare, and family planning reduce birth rates as well.
Step 2: Identifying the stage with low birth and death rates.
In **Stage IV (Low Stationary Stage)**:

- Birth rate is low.
- Death rate is low.
- Population growth becomes stable or very slow.

Examples of countries in this stage include many developed nations such as those in Western Europe and North America.
Step 3: Evaluating the options.

- **Stage I:** Both birth and death rates are high.
- **Stage II:** Birth rate high, death rate declining.
- **Stage III:** Birth rate declining but not yet very low.
- **Stage IV:** Both birth and death rates are low.

Therefore, the correct answer is:

Stage IV – Low Stationary Stage

Quick Tip

Remember the Demographic Transition stages:
Stage I: High birth rate + High death rate
Stage II: High birth rate + Falling death rate
Stage III: Falling birth rate + Low death rate
Stage IV: Low birth rate + Low death rate
Thus, when **both birth and death rates are low**, the country is in **Stage IV**.

6. The Suez Canal connects which two major bodies of water?
(A) Mediterranean Sea and Red Sea
(B) Arabian Sea and Red Sea
(C) Mediterranean Sea and Black Sea
(D) Persian Gulf and Mediterranean Sea

Correct Answer: (1) Mediterranean Sea and Red Sea

Solution:
Concept: The **Suez Canal** is one of the most important artificial waterways in the world. It is located in **Egypt** and serves as a vital international shipping route. The canal allows ships to travel directly between Europe and Asia without having to sail around the southern tip of Africa.
Before the construction of the canal, ships traveling between Europe and Asia had to go around the **Cape of Good Hope** at the southern end of Africa, which significantly increased travel distance and time.
The Suez Canal was officially opened in **1869**. It was constructed to create a direct maritime link between two major seas, improving global trade and transportation.
Step 1: Understanding the location of the Suez Canal.
The Suez Canal is located on the **Isthmus of Suez** in northeastern Egypt. It forms a direct connection between:

- The **Mediterranean Sea** in the north.
- The **Red Sea** in the south.

This connection allows ships to move directly between Europe and Asia.
Step 2: Importance of the canal.
The Suez Canal is extremely important for global trade because it:

- Shortens the shipping route between Europe and Asia.
- Reduces transportation time and fuel costs.
- Serves as one of the busiest maritime trade routes in the world.

It eliminates the need for ships to travel around the African continent.
Step 3: Evaluating the options.

- **Mediterranean Sea and Red Sea** — Correct, these two seas are directly connected by the Suez Canal.
- **Arabian Sea and Red Sea** — Not connected by the Suez Canal.
- **Mediterranean Sea and Black Sea** — Connected by the Bosporus Strait, not the Suez Canal.
- **Persian Gulf and Mediterranean Sea** — These are not directly connected by the Suez Canal.

Thus, the correct answer is:

Mediterranean Sea and Red Sea

Quick Tip

Two very important artificial canals to remember in geography:
Suez Canal → Connects **Mediterranean Sea and Red Sea**
Panama Canal → Connects **Atlantic Ocean and Pacific Ocean**
These canals significantly reduce global shipping distances.

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7. Which state in India has the highest literacy rate according to the 2011 Census?
(A) Tamil Nadu
(B) Kerala
(C) Maharashtra
(D) Himachal Pradesh

Correct Answer: (2) Kerala

Solution:
Concept: Literacy rate refers to the percentage of people in a population who are able to read and write with understanding. In India, literacy statistics are collected during the **national population census** conducted every ten years.
According to the **2011 Census of India**, Kerala recorded the highest literacy rate among all Indian states. The state has consistently maintained high educational standards due to strong social development policies, widespread school infrastructure, and public awareness about education.
The literacy rate of Kerala in the 2011 Census was approximately:

$$93.91\%$$

This means that nearly 94 out of every 100 people in Kerala aged seven years and above were literate.
Step 1: Understanding literacy rate measurement.
In the Indian census, a person aged **7 years or above** who can both read and write with understanding in any language is considered **literate**. The literacy rate is calculated using the formula:

$$\text{Literacy Rate} = \frac{\text{Number of Literate Persons}}{\text{Total Population (Age 7+)}} \times 100$$

Step 2: Identifying the state with the highest literacy rate.
Among Indian states, Kerala stands out due to:

- Strong emphasis on education since the early 20th century.
- High investment in public schooling.
- Effective literacy campaigns and social reforms.

- High female literacy rates.

Because of these factors, Kerala achieved the **highest literacy rate in India in the 2011 Census**.
Step 3: Evaluating the given options.

- **Tamil Nadu:** High literacy rate but lower than Kerala.
- **Kerala:** Highest literacy rate in India (93.91%).
- **Maharashtra:** Moderately high literacy but not the highest.
- **Himachal Pradesh:** Good literacy rate but still below Kerala.

Thus, the correct answer is:

Kerala

Quick Tip

Important Census 2011 facts:
Highest Literacy Rate State: Kerala (93.91%)
Lowest Literacy Rate State: Bihar
Highest Literacy Union Territory: Lakshadweep
Kerala is often called the **most literate state in India**.

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8. The Big Bang Theory is related to the origin of which entity?
(A) Earth
(B) Solar System
(C) Universe
(D) Milky Way Galaxy

Correct Answer: (3) Universe

Solution:
Concept: The **Big Bang Theory** is the most widely accepted scientific explanation for the origin of the **universe**. According to this theory, the universe began approximately **13.8 billion years ago** from an extremely hot and dense point called a **singularity**.
At this moment, a massive expansion occurred, causing space, time, matter, and energy to come into existence. This expansion is known as the **Big Bang**. Over billions of years, this expanding universe cooled down, allowing the formation of particles, atoms, stars, galaxies, and planetary systems.
The theory was first proposed by the Belgian astronomer and physicist **Georges Lemaître** in 1927 and later supported by several observational evidences such as cosmic microwave background radiation and the expansion of galaxies.
Step 1: Understanding what the Big Bang explains.
The Big Bang Theory explains the:

- Origin of space and time

- Formation of matter and energy
- Expansion of the universe

It does not describe the formation of only a single planet, star, or galaxy, but rather the beginning of the **entire universe**.
Step 2: Key evidence supporting the Big Bang Theory.
Scientists support the Big Bang Theory using several observations:

- **Expansion of the Universe:** Discovered by Edwin Hubble, showing that galaxies are moving away from each other.
- **Cosmic Microwave Background Radiation (CMB):** The faint radiation left over from the early stages of the universe.
- **Abundance of Light Elements:** The predicted amounts of hydrogen and helium formed shortly after the Big Bang match observations.

Step 3: Evaluating the given options.

- **Earth:** Formed about 4.5 billion years ago, long after the Big Bang.
- **Solar System:** Formed from a collapsing cloud of gas and dust.
- **Universe:** The Big Bang Theory explains the origin of the entire universe.
- **Milky Way Galaxy:** One of billions of galaxies formed after the universe began.

Therefore, the correct answer is:

Universe

Quick Tip

Remember the key idea:
Big Bang Theory → Origin of the **Universe**
Timeline to remember:

- Universe formed ≈ 13.8 billion years ago
- Solar System formed ≈ 4.6 billion years ago
- Earth formed ≈ 4.5 billion years ago

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9. Which type of farming is characterized by "slash and burn" techniques?
(A) Plantation Farming
(B) Intensive Farming
(C) Shifting Cultivation
(D) Mixed Farming

Correct Answer: (3) Shifting Cultivation

Solution:
Concept: Shifting cultivation is a traditional farming method practiced mainly in tropical forest regions of Asia, Africa, and South America. It is characterized by the technique known as **"slash and burn."**
In this method, farmers first **cut down (slash)** the natural vegetation of a forest area and then **burn** the cleared vegetation. The ash produced from burning acts as a natural fertilizer, enriching the soil with nutrients for crop cultivation.
After cultivating the land for a few years, the soil fertility decreases. Farmers then leave the land fallow and move to another area, repeating the same process. Hence, the cultivation **shifts from one place to another**, giving this method its name.
Step 1: Understanding the "slash and burn" process.
The method involves the following steps:

- Vegetation and trees are **cut down (slashed)**.
- The cut vegetation is **burned**.
- Ash from the burned plants provides nutrients to the soil.
- Crops are cultivated for a few years.
- When soil fertility decreases, farmers move to a new area.

This agricultural method is commonly practiced by tribal communities.
Step 2: Examples of shifting cultivation in different regions.
Shifting cultivation is known by different names in different parts of the world:

- **Jhum** – North-East India
- **Milpa** – Mexico and Central America
- **Ladang** – Indonesia and Malaysia
- **Chena** – Sri Lanka

Step 3: Evaluating the options.

- **Plantation Farming:** Large-scale farming of crops like tea, coffee, rubber, etc.
- **Intensive Farming:** Farming with high inputs of labor and capital on small land areas.
- **Shifting Cultivation:** Uses the **slash and burn technique**. (Correct)
- **Mixed Farming:** Combination of crop cultivation and livestock rearing.

Therefore, the correct answer is:

Shifting Cultivation

Quick Tip

Slash and Burn Agriculture = Shifting Cultivation
Important example for exams:
Jhum Cultivation practiced in the **North-Eastern states of India** is a form of shifting cultivation.

10. What is the name of the line that separates India and China?
(A) Radcliffe Line
(B) McMahon Line
(C) Durand Line
(D) Line of Control

Correct Answer: (2) McMahon Line

Solution:
Concept: The **McMahon Line** is the boundary line that separates India and China in the eastern Himalayan region. It was proposed during the **Simla Convention of 1914**, an agreement between British India, Tibet, and China to define the boundary between Tibet and British India.
The line was named after **Sir Henry McMahon**, the British Indian foreign secretary who drew the boundary during the Simla Conference. It mainly separates the Indian state of **Arunachal Pradesh** from Tibet (which is currently administered by China).
India recognizes the McMahon Line as the official boundary between India and China in the eastern sector, although China disputes this boundary.
Step 1: Understanding the India–China boundary in the eastern sector.
The boundary between India and China is not fully agreed upon. However, in the eastern region, the boundary proposed in 1914 is known as the **McMahon Line**. It runs along the crest of the Himalayas and forms the border between:

- **Arunachal Pradesh (India)**
- **Tibet Autonomous Region (China)**

Step 2: Identifying the correct boundary line.
Among the given options:

- **Radcliffe Line:** Boundary between India and Pakistan drawn in 1947.
- **McMahon Line:** Boundary between India and China in the eastern sector.
- **Durand Line:** Boundary between Afghanistan and Pakistan.
- **Line of Control (LoC):** Military control line between India and Pakistan in Jammu and Kashmir.

Thus, the boundary separating India and China (in the eastern sector) is the **McMahon Line**.
Step 3: Conclusion.
Since the question asks for the line separating India and China, the correct answer is:

McMahon Line

Quick Tip

Important boundary lines in geography:

- **McMahon Line** → India – China
- **Radcliffe Line** → India – Pakistan
- **Durand Line** → Pakistan – Afghanistan
- **Line of Control (LoC)** → India – Pakistan (Kashmir region)

These lines are frequently asked in competitive examinations.

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11. Which map projection is most suitable for showing equatorial regions?
(A) Mercator Projection
(B) Conical Projection
(C) Cylindrical Projection
(D) Polar Projection

Correct Answer: (3) Cylindrical Projection

Solution:
Concept: A **map projection** is a method used to represent the curved surface of the Earth on a flat map. Since the Earth is spherical, it is impossible to project it onto a flat surface without some distortion. Different map projections are therefore designed for different purposes and regions of the Earth.
Among the various projections, the **cylindrical projection** is particularly suitable for representing regions near the **equator**. In this projection, the Earth is imagined to be enclosed within a cylinder that touches the globe along the equator. The geographical features are then projected onto the cylindrical surface and later unrolled into a flat map.
Because the cylinder touches the Earth at the equator, distortion is minimal in the equatorial region but increases as we move toward the poles.
Step 1: Understanding the cylindrical projection.
In cylindrical projection:

- The Earth is projected onto a cylinder that touches the globe at the **equator**.
- Parallels and meridians appear as straight lines.
- Distortion is minimal near the equator.
- Distortion increases toward the polar regions.

Therefore, this projection is most suitable for maps of **equatorial and tropical regions**.
Step 2: Understanding other map projections.

- **Mercator Projection:** A type of cylindrical projection mainly used for navigation but exaggerates polar areas.
- **Conical Projection:** Best suited for **mid-latitude regions** such as North America and Europe.

- **Polar (Azimuthal) Projection:** Best suited for representing **polar regions**.

Step 3: Evaluating the options.

- **Mercator Projection:** Useful for navigation but not specifically designed for equatorial emphasis.
- **Conical Projection:** Best for mid-latitudes.
- **Cylindrical Projection:** Most suitable for equatorial regions. (Correct)
- **Polar Projection:** Best for polar areas.

Thus, the correct answer is:

Cylindrical Projection

Quick Tip

A simple way to remember map projections:

- **Cylindrical Projection** → Equatorial regions
- **Conical Projection** → Mid-latitudes
- **Polar (Azimuthal) Projection** → Polar regions

Each projection minimizes distortion in the region where the projection surface touches the globe.

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12. The Mohorovicic Discontinuity separates which two layers of the Earth?
(A) Crust and Mantle
(B) Mantle and Outer Core
(C) Outer Core and Inner Core
(D) Lithosphere and Asthenosphere

Correct Answer: (1) Crust and Mantle

Solution:
Concept: The interior of the Earth is divided into several layers based on their composition and physical properties. The three major layers of the Earth are:

- **Crust**
- **Mantle**
- **Core**

Between these layers, there exist boundaries known as **discontinuities**, where the properties of seismic waves change abruptly. These discontinuities help scientists understand the structure of the Earth's interior.

One of the most important boundaries is the **Mohorovičić Discontinuity**, commonly called the **Moho**. It marks the boundary between the **Earth's crust** and the **mantle**.
Step 1: Understanding the Mohorovičić Discontinuity.
The Mohorovičić Discontinuity was discovered in **1909** by the Croatian seismologist **Andrija Mohorovičić**. He observed that seismic waves from earthquakes suddenly increased in speed at a certain depth inside the Earth.
This change in velocity indicated that the waves had entered a different layer of the Earth with different physical properties.
Step 2: Location of the Moho boundary.
The Moho lies at different depths depending on the region:

- About **5–10 km** below the oceanic crust
- About **30–50 km** below the continental crust

At this boundary, seismic waves travel faster because mantle rocks are denser and more rigid than crustal rocks.
Step 3: Evaluating the options.

- **Crust and Mantle:** Separated by the Mohorovičić Discontinuity. (Correct)
- **Mantle and Outer Core:** Separated by the **Gutenberg Discontinuity**.
- **Outer Core and Inner Core:** Separated by the **Lehmann Discontinuity**.
- **Lithosphere and Asthenosphere:** Separated by a mechanical boundary within the upper mantle, not the Moho.

Thus, the Mohorovičić Discontinuity separates the:

Crust and Mantle

Quick Tip

Important Earth interior discontinuities:

- **Mohorovičić Discontinuity (Moho)** → Crust and Mantle
- **Gutenberg Discontinuity** → Mantle and Outer Core
- **Lehmann Discontinuity** → Outer Core and Inner Core

Remember: **Moho = Crust–Mantle boundary**.

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13. What is the primary cause of the Coriolis Effect?
(A) Earth's revolution around the Sun
(B) Earth's rotation on its axis
(C) Gravitational pull of the Moon
(D) Uneven heating of the Earth's surface

Correct Answer: (2) Earth's rotation on its axis

Solution:
Concept: The **Coriolis Effect** refers to the apparent deflection of moving objects such as winds, ocean currents, and projectiles due to the **rotation of the Earth**. It is a key concept in physical geography and meteorology because it influences global wind systems and ocean circulation.
When the Earth rotates from **west to east**, objects moving over its surface do not travel in a straight line relative to the rotating planet. Instead, their paths appear to curve.

- In the **Northern Hemisphere**, moving objects are deflected toward the **right**.
- In the **Southern Hemisphere**, moving objects are deflected toward the **left**.

This phenomenon is known as the **Coriolis Effect**, named after the French scientist **Gaspard-Gustave Coriolis**.
Step 1: Understanding the cause of the Coriolis Effect.
The Earth rotates on its axis once every **24 hours**. Because of this rotation, different parts of the Earth move at different speeds:

- The **equator** moves faster because it has a larger circumference.
- The **polar regions** move slower.

When air masses or ocean currents move across the Earth's surface, the difference in rotational speed causes their paths to deflect.
Step 2: Impact of the Coriolis Effect.
The Coriolis Effect influences many global phenomena, including:

- Global wind systems such as the trade winds and westerlies
- Ocean currents
- Cyclones and anticyclones

For example, cyclones rotate **counterclockwise in the Northern Hemisphere** and **clockwise in the Southern Hemisphere** due to the Coriolis Effect.
Step 3: Evaluating the options.

- **Earth's revolution around the Sun:** Responsible for seasons, not the Coriolis Effect.
- **Earth's rotation on its axis:** The primary cause of the Coriolis Effect. (Correct)
- **Gravitational pull of the Moon:** Mainly responsible for tides.
- **Uneven heating of the Earth's surface:** Causes wind generation but not the Coriolis deflection.

Thus, the correct answer is:

Earth's rotation on its axis

Quick Tip

Remember the rule of the Coriolis Effect:

- **Northern Hemisphere** → Deflection to the **right**
- **Southern Hemisphere** → Deflection to the **left**

Cause: Rotation of the Earth.

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14. Which Indian river is known as the "Dakshin Ganga"?
(A) Krishna River
(B) Godavari River
(C) Narmada River
(D) Kaveri River

Correct Answer: (2) Godavari River

Solution:
Concept: The **Godavari River** is popularly known as the **"Dakshin Ganga"** or **"Ganga of the South"** because it is the **longest river in peninsular India** and holds great cultural, economic, and religious importance similar to the Ganga in northern India.
The river originates from the **Trimbakeshwar Hills** in the **Western Ghats** near Nashik in Maharashtra. From there, it flows eastward across the Deccan Plateau and finally drains into the **Bay of Bengal**.
The Godavari River basin covers several Indian states and supports agriculture, irrigation, and water supply for millions of people.
Step 1: Understanding why Godavari is called Dakshin Ganga.
The Godavari River is given this name because:

- It is the **longest river in South India**.
- It flows through a large part of peninsular India.
- It has great **religious and cultural significance**.
- It supports agriculture and livelihoods similar to the Ganga in northern India.

Because of these similarities, the river is popularly called the **"Dakshin Ganga"**.
Step 2: Major facts about the Godavari River.

- **Length:** Approximately 1465 km
- **Source:** Trimbakeshwar, Maharashtra
- **Drainage Basin:** Second largest river basin in India after the Ganga
- **States Covered:** Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, Odisha, and Madhya Pradesh

Step 3: Evaluating the options.

- **Krishna River:** Major peninsular river but not called Dakshin Ganga.
- **Godavari River:** Known as the **Dakshin Ganga**. (Correct)
- **Narmada River:** West-flowing river into the Arabian Sea.
- **Kaveri River:** Important river in South India but not known by this title.

Therefore, the correct answer is:

Godavari River

Quick Tip

Important Indian river nicknames:

- **Godavari** → Dakshin Ganga (Ganga of the South)
- **Brahmaputra** → Tsangpo in Tibet
- **Damodar** → Sorrow of Bengal

Godavari is the longest river of Peninsular India.

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15. The Isodapane concept in industrial location theory was introduced by whom?
(A) Alfred Weber
(B) August Lösch
(C) Walter Christaller
(D) Von Thünen

Correct Answer: (1) Alfred Weber

Solution:
Concept: The concept of **Isodapanes** is associated with the **Industrial Location Theory** proposed by the German economist **Alfred Weber**. His theory, developed in **1909**, focuses on determining the most efficient location for industries by minimizing transportation and production costs.
According to Weber's theory, industries tend to locate at places where the **total cost of production is minimum**. These costs mainly include transportation cost, labor cost, and agglomeration advantages.
The term **Isodapane** refers to a line drawn around the least-cost location showing points that have **equal additional transportation cost**.
Step 1: Understanding Alfred Weber's Industrial Location Theory.
Alfred Weber proposed that the location of industries is influenced by three main factors:

- **Transportation Cost**
- **Labor Cost**
- **Agglomeration and Deglomeration Forces**

Industries generally locate at the point where transportation costs of raw materials and finished products are minimized.
Step 2: Understanding the concept of Isodapanes.
An **Isodapane** is a line on a map that connects points having the **same additional transportation cost** from the optimal industrial location.

- The center point represents the **least transportation cost location**.
- Surrounding lines show equal increments of additional cost.

This concept helps explain how industries may shift location if benefits such as cheaper labor outweigh additional transport costs.
Step 3: Evaluating the given options.

- **Alfred Weber:** Introduced the Industrial Location Theory and the concept of **Isodapanes**. (Correct)
- **August Lösch:** Known for market area theory and economic landscape.
- **Walter Christaller:** Proposed the **Central Place Theory**.
- **Von Thünen:** Developed the **Agricultural Location Theory**.

Therefore, the correct answer is:

Alfred Weber

Quick Tip

Important location theories in geography:

- **Alfred Weber** → Industrial Location Theory (Isodapanes)
- **Von Thünen** → Agricultural Location Theory
- **Walter Christaller** → Central Place Theory
- **August Lösch** → Market Area Theory

Remember: **Isodapane = Alfred Weber**.
