(IAS Academy by IAS Officers)

TEST-4 Q&A

1. **Consider the following statements with respect to the Great Himalayas/Himadri**

   1. It is the most continuous range among the three parallel ranges of Himalayas.

   2. The folds of the Great Himalayas are asymmetrical in nature.

   3. The core of Great Himalayas is composed of granite.

   Which of the statements given above is/are INCORRECT?

   a) 3 only

   b) 1 and 3 only

   c) 2 and 3 only

   d) None of the above

   Ans : D

   Explanation

- The Mountain ranges are,
  - **T**ranshimalayan ranges
    - Karakoram range
    - Kailash range
    - Ladakh range
    - Zaskar range
  - Himalayan ranges
    - **Inner himalaya/Great Himalaya/Himadri**
    - Middle himalaya/Lesser himalaya
    - Outer himalaya/Shivalik range
  - Purvanchal Himalayas/Eastern himalayas
- **Statement 1 is correct:** The Northernmost range ofhimalaya is known as the **Great or Inner Himalayas** or **the Himadri**. It is the **most continuous range** consisting of the loftiest peaks with an average height of 6,000 metres.
- **Statement 2 is correct:** It contains all prominent Himalayan peaks. The**folds of the Great Himalayas are asymmetrical in nature**.

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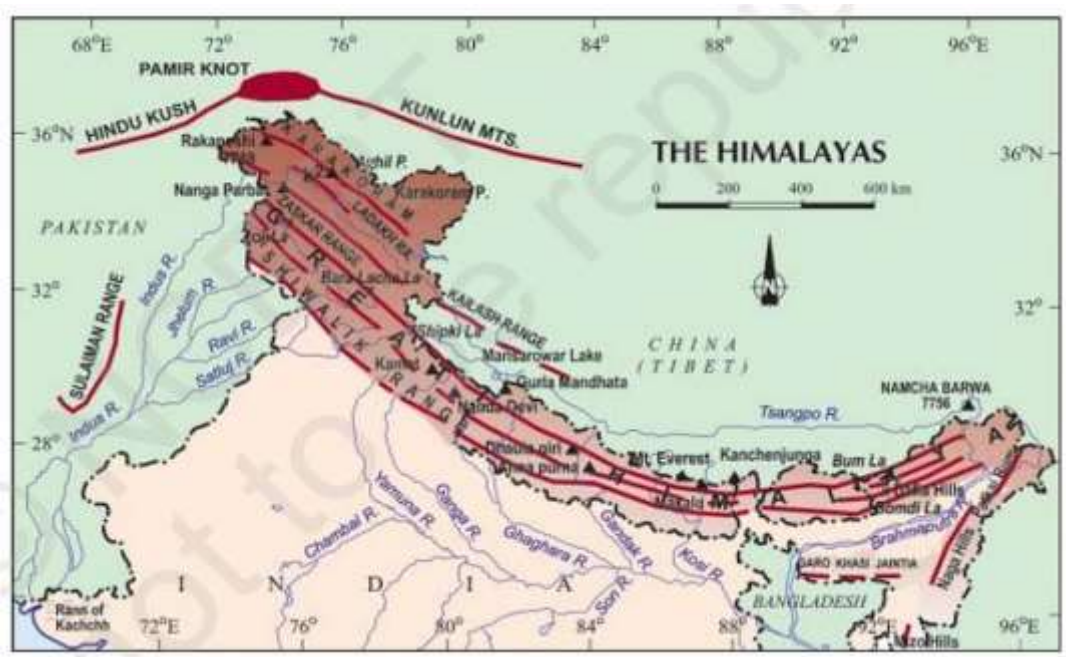
- **Statement 3 is correct:** The **core of this part** of the Himalayas is **composed of granite**. It is perennially snowbound, and a number of glaciers descend from this range.



9th NCERT

Page no : 11

2. **Consider the following statements regarding the Gondwana land**

1. It is the Northern part of the ancient supercontinent 'Pangea' with Angara land in the Southern part.

2. The Gondwanaland included India, Australia, South Africa, South America and Antarctica as one single land mass.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : B

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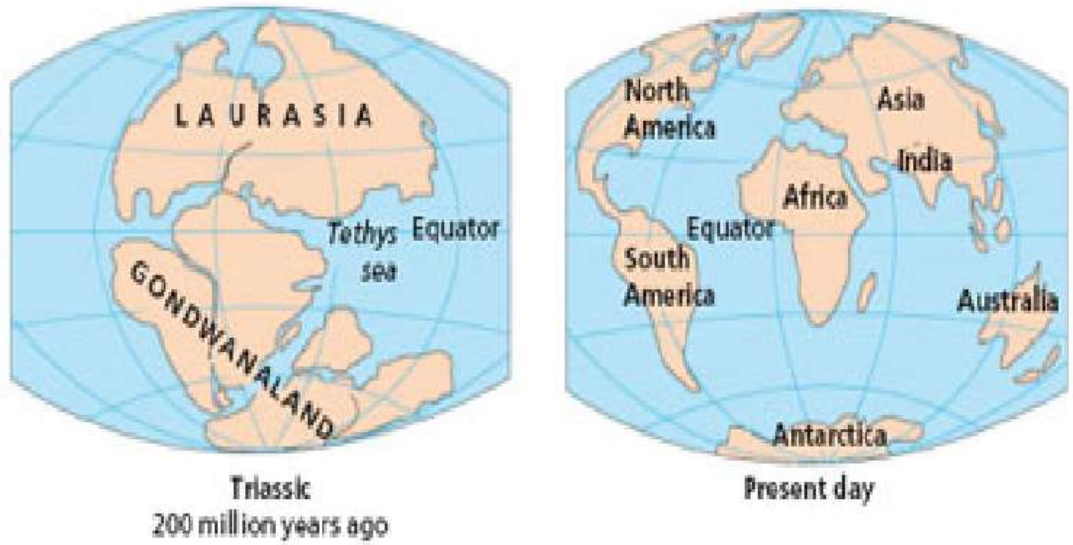
Explanation

According to **Wegener's Continental Drift theory**, all the continents were **one single continental mass** (called a SuperContinent) **– Pangaea**and a Mega Ocean surrounded this supercontinent. The mega ocean is known by the name **Panthalassa.**

- **Statement 1 is incorrect:** The supercontinent, **Pangaea began to split** some two hundred million years back. It first split into 2 big continental masses known as **Gondwanaland and Angara land forming the Southern and Northern part respectively**
- **Statement 2 is correct:** The Southern supercontinent, Gondwanaland **included India, Australia, South Africa, South America and Antarctica as one single land mass.**



9th NCERT

Page no : 8

3. **Which of the following statements with respect to the process of formation of Himalayan mountain system is/are correct?**

1. It was due to the Northward drift of Indo-Australian plate resulting in the collision of the plate with the Pacific plate

2. The sedimentary rocks accumulated in the geosyncline known as Tethys were folded to form the mountain system.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : B

Explanation

- The ancient supercontinent, **Pangaea began to split** some two hundred million years back. It first split into 2 big continental masses known as **Gondwanaland and Angara land forming the Southern and Northern part respectively**
- The Gondwanaland included India, Australia, South Africa, South America and Antarctica **as one single land mass.**
- The **conventional current (a force which causes movement of plates) splits the crust into a number of pieces**, thus leading to the drifting of the Indo-Australian plate after being separated from the Gondwana land, towards North
- **Statement 1 is incorrect**: This Northward drift of Indo-Australian plate **resulting in the collision of the plate with the much larger Eurasian plate (not Pacific plate)**
- **Statement 2 is correct:** Due to this collision, **the sedimentary rocks which were accumulated in the geosyncline known as Tethys** were folded to form the mountain system of Himalayas

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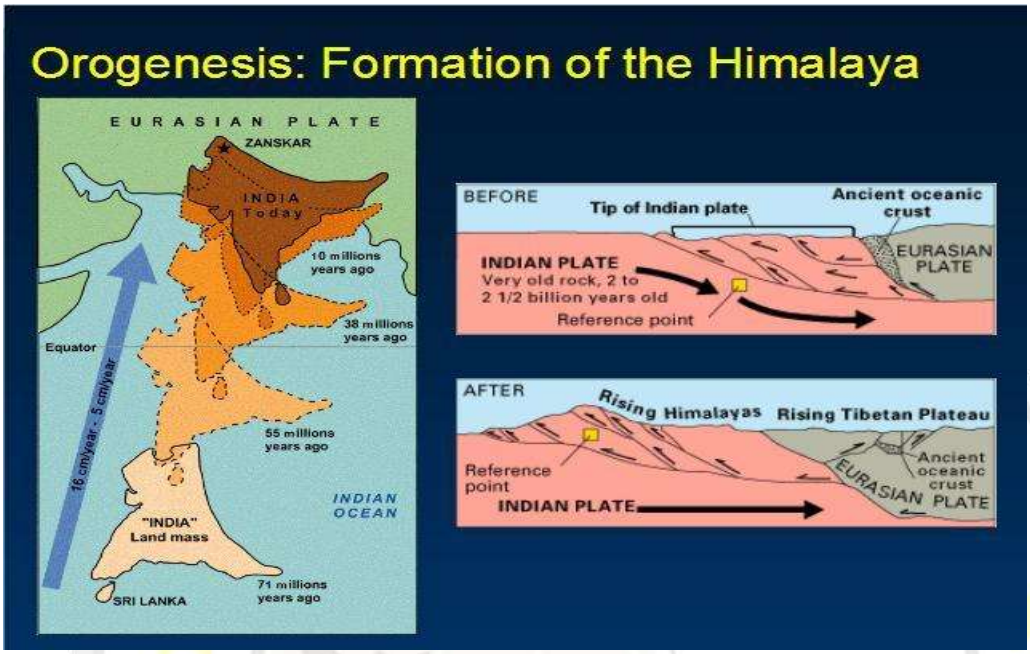

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Page no : 8

4. Consider the following pairs with respect to the division of Himalayas based on river valleys

List 1	List 2
1. Kumaon Himalayas	A. The part of Himalayas lying between Kali and Teesta rivers
2. Assam Himalayas	B. The part of Himalayas lying between Indus and Sutlej rivers
3. Nepal Himalayas	C. The part of Himalayas lying between Teesta and Dihangriver
4. Punjab Himalayas	D. The part of the Himalayas lying between Satluj and Kali rivers

Select the correct answer using the codes given below

	1	2	3	4
a)	A	C	D	B
b)	D	A	C	B
c)	A	B	C	D
d)	D	C	A	B

Ans : D

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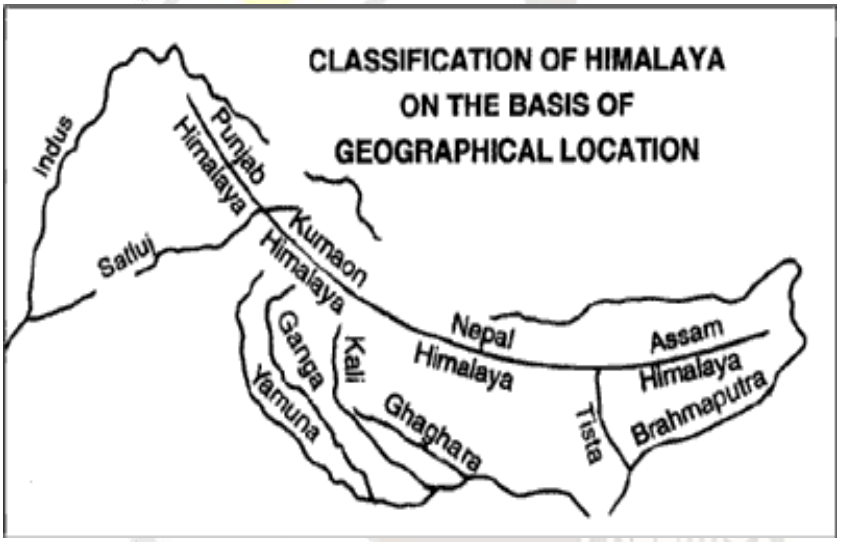
Explanation

- Besides the longitudinal divisions, the **Himalayas have been divided on the basis of regions** from West to East. These divisions have been **demarcated by river valleys**
- The part of Himalayas **lying between Indus and Satluj has been traditionally known as Punjab Himalaya** but it is also known regionally as Kashmir and Himachal Himalaya from West to East respectively.
- The part of the Himalayas lying **between Satluj and Kali rivers is known as Kumaon Himalayas**.
- The part of Himalayas **lying between Kali and Teesta rivers** Is known as Nepal Himalayas
- The part lying **between Teesta and Dihang rivers** is known as **Assam Himalayas**.



9th NCERT

Page no : 11

5. **Consider the following pairs**

Regions in Northern plains		**Description**
1. Bhabar	-	These are older alluvium which lies above the flood plains of the rivers and present a terrace like feature
2. Terai	-	The streams and rivers re-emerge in this region and create a wet, swampy and marshy region.

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3. Khadar - These are newer, younger deposits of the floodplains which are renewed almost every year

Select the correct answer using the codes given below

a) 1 and 2 only

b) 2 and 3 only

c) 1, 2, and 3

d) 1 and 3 only

Ans : B

Explanation

- The Northern plains are **generally described as flat land with no variations** in its relief. It is not true.
- These vast plains also **have diverse relief features**. According to the variations in relief features, the **Northern plains can be divided into four regions**.
- The rivers, after descending from the mountains deposit pebbles in a **narrow belt of about 8 to 16 km in width lying parallel to the slopes of the Shiwaliks. It is known as bhabar**. All the streams disappear in this bhabar belt.
- South of this belt, the **streams and rivers re-emerge and create a wet, swampy and marshy region known as terai.** This is a thickly forested region full of wildlife.
- The largest part of the Northern plain is formed of **older alluvium**. It lies **above the floodplains of the rivers** and presents a terrace like feature. This part is known as **bhangar**.
- The **newer, younger deposits** of the floodplains are called **khadar**. They are **renewed almost every year** and so are fertile, thus ideal for intensive agriculture.

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Page no : 12

6. Which of the following mountain ranges forms a part of the lesser Himalaya?

1. Pir Panjal range
2. Zaskar range
3. Dhaula Dhar range
4. Mahabharat range

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Select the correct answer using the codes given below

a) 3 and 4 only

b) 1, 3 and 4 only

c) 1 and 3 only

d) 1, 2, 3 and 4.

Ans : B

Explanation

- The **range lying to the South of the Himadri** forms the most rugged mountain system and is known as **Himachal or lesser Himalaya**.
- The ranges are mainly composed of **highly compressed and altered rocks**. The altitude varies between 3,700 and 4,500 metres and the average width is of 50 Km.
- While the **PirPanjal range forms the longest** and the most important range, **the DhaulaDhar and the Mahabharat ranges** are also prominent ones.
- This range consists of the **famous valley of Kashmir, Kangra and Kullu Valley** in Himachal Pradesh. This region is well-known for its hill stations
- **The range extending to the North of the Himadri/Greater Himalaya** and running parallel to it is called the **Zaskar range** (It is **not a part of lesser Himalaya)**

9th NCERT

Page no : 11

7. Which one of the following statements is INCORRECT regarding the physical features of India?

a) The peninsular plateau is composed of igneous and metamorphic rocks with gently rising hills and wide valleys

b) A flat land of extensive alluvial deposits led to the formation of the Northern plains of India

c) The longitudinal valley lying between the Greater Himalayas and the lesser Himalayas are known as Duns.

d) The whole mountain system of Himalayas represents a very youthful topography with high peaks, deep valleys and fast flowing rivers.

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Ans : C

Explanation

- **Option D is correct** : The Himalayas, **geologically young and structurally fold mountains** stretch over the Northern borders of India. The Himalayas **represent the loftiest** and one of the most rugged mountain barriers of the world. The whole mountain system of Himalaya represents a **very youthful topography with high peaks, deep valleys and fast flowing rivers**
- **Option B is correct** : The Northern plain has been formed by the interplay of the three major river systems, namely - the Indus, the Ganga and the Brahmaputra along with their tributaries. This plain is formed of alluvial soil. The **deposition of alluvium in a vast basin lying at the foothills of the Himalaya** over millions of years formed this fertile plain. A **flat land of extensive alluvial deposits** led to the formation of the Northern plains of India
- **Option A is correct** : The Peninsular plateau is a tableland composed of the old crystalline, igneous and metamorphic rocks with **gently rising hills and wide valleys**
- **Option C is incorrect:** The longitudinal valley lying **between lesser Himalaya and the Shiwaliks(not between the Greater Himalayas and the lesser Himalayas)** are known as **Duns.**DehraDun, Kotli Dun and Patli Dun are some of the well-known Duns.

9th NCERT

Page no : 9,11 and 13.

8. What is the correct sequence of occurrence of following mountains as one proceeds from North to South?

1. Nanga Parbat
2. Kamet
3. K2 (Godwin-Austen)
4. Nanda Devi

Select the correct answer using the codes given below

a) 2-3-1-4

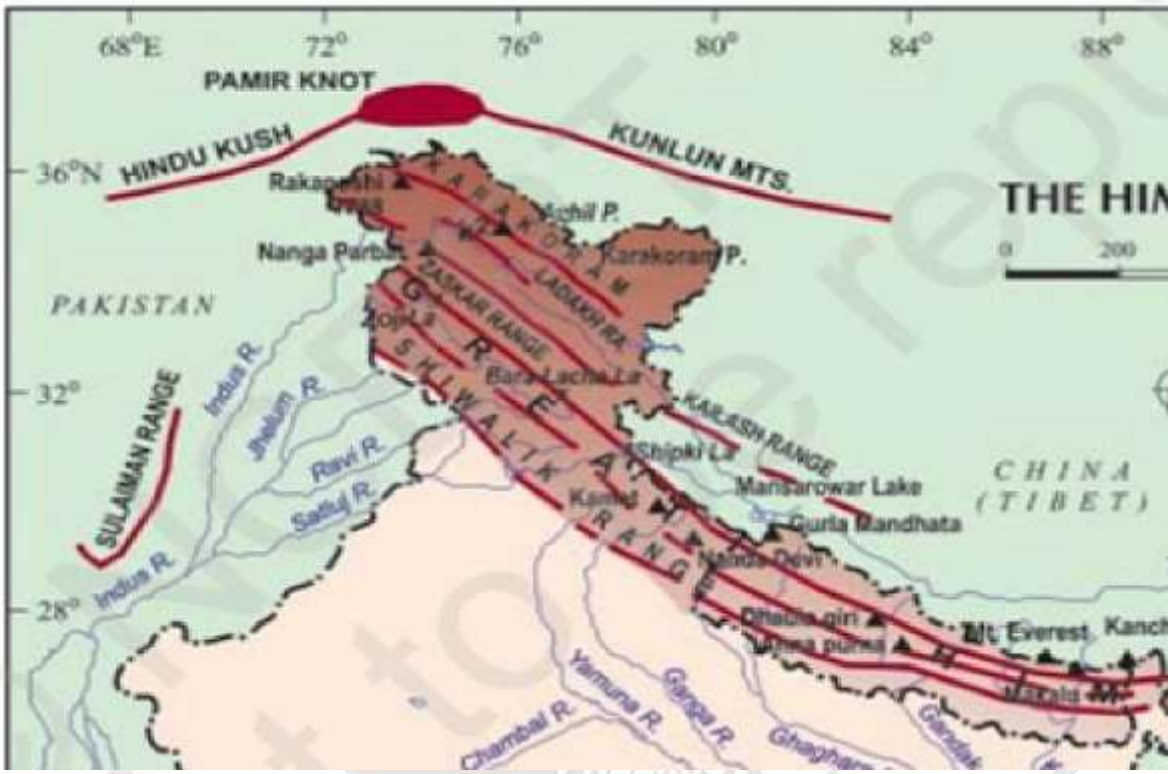
b) 3-4-1-2

c) 2-1-3-4

d) 3-1-2-4

Ans : D

Explanation



9th NCERT

Page no : 9

9. Consider the following statements with respect to 'Purvanchal'

1. It is a part of Himalayas that spreads along the Eastern boundary of the India, running through the North-Eastern states.

2. These are mostly composed of sandstones (Sedimentary rocks)

Which of the statements given above is/are INCORRECT?

a) 1 only

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b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : D

Explanation

- **Statement 1 is correct**: The Brahmaputra marks the Eastern-most boundary of the Himalayas. Beyond the Dihang gorge, the **Himalayas bend sharply to the South** and **spread along the Eastern boundary of India**. They are known as the **Purvachal or the Eastern hills and mountains**.
- **Statement 2 is correct:** These hills **running through the North-Eastern states** are mostly **composed of strong sandstones, which are sedimentary rocks**.
- Covered with dense forests, they mostly run as parallel ranges and valleys. The Purvachal comprises **the Patkai hills, the Naga hills, the Manipur hills and the Mizo** hills

9th NCERT

Page no : 11

10. Consider the following pairs with respect to types of drainage patterns

List 1	List 2
1. Trellis pattern	A. It develops when a stream flows in different directions from a central peak
2. Rectangular pattern	B. It develops where hard and soft rocks exist parallel to each other
3. Dendritic pattern	C. It develops on a strongly jointed rocky terrain
4. Radial pattern	D. It develops where the river channel follows the slope of the terrain

Select the correct answer using the codes given below

	1	2	3	4
a)	A	D	C	B
b)	B	C	D	A
c)	D	B	A	C
d)	C	B	D	A

Ans : B

Explanation

Depending on the **slope of land, underlying rock structure and climate of an area**, the streams in a drainage basin form certain patterns. Different types of drainage pattern are as follows

- **Dendritic Drainage Pattern:** When the river channel **follows the slope of the terrain**, it develops dendritic pattern. The stream and its tributaries **resemble the branches of a tree**. Hence, it is called dendritic pattern
- **Trellis Drainage Pattern:** When a river is joined by its tributaries at almost right angles, it develops a trellis pattern. Trellis pattern **develops where hard and soft rocks exist parallel to each other**
- **Rectangular Drainage Pattern:** When **rocks are strongly joined**, then rectangular pattern develops
- **Radial Drainage Pattern:** When the **streams flow in different directions from a central peak** or dome like structure, a radial pattern is developed.

9th NCERT

Page no : 18

11. Consider the following statements regarding the Western Coastal Plains

1. These plains running along the Arabian Sea are wider than the Eastern coastal plains

2. The Northern part of the coast is called the Northern Circar, while the Southern part is known as the Coromandel Coast

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : D

Explanation

- The Peninsular plateau is flanked by stretch of narrow coastal strips, running along the Arabian Sea on the West and the Bay of Bengal on the East.

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- **Statement 1 is incorrect:** The Western coast, sandwiched between the Western Ghats and the Arabian Sea, **is a narrow plain**, while the **plains along the Bay of Bengal are wide** and level (Western coastal plains are **narrower than the Eastern coastal plains)**
- **Statement 2 is incorrect:** The Western coastal plains consist of three sections. **The Northern part of the coast is called the Konkan (Mumbai – Goa),** the central stretch is called the Kannad Plain, while the **Southern stretch is referred to as the Malabar coast**.
- **Eastern coastal plains:** In the Northern part, it is **referred to as the Northern Circar, while the Southern part is known as the Coromandel Coast**. Large rivers, such as the Mahanadi, Godavari, Krishna and Kaveri have formed **extensive delta** on this coast.

9th NCERT

Page no : 14

12. Which of the following rivers has its source of origin at/near the Manasarovar lake?

1. Brahmaputra
2. Indus
3. Gandak
4. Satluj

Select the correct answer using the codes given below

a) 1, 2 and 3 only

b) 1, 2 and 4 only

c) 1 and 2 only

d) 1, 2, 3 and 4.

Ans : B

Explanation

- The **river Indus rises in Tibet, near Lake Mansarovar**. Flowing West, it enters India in Ladakh district of Jammu and Kashmir. Several tributaries, Zaskar, Nubra, Shyok and Hunza, join it in the Kashmir region.
- The **Satluj originates in the Rakaslake near Mansarovar** at an altitude of 4,555 m in Tibet where it is known as **LangchenKhambab**. It flows almost parallel to the Indus for about 400 km before entering India,

and comes out of a gorge at Rupar. It passes through the Shipki La on the Himalayan ranges and enters the Punjab plains

- **The Brahmaputra rises in Tibet East of Mansarovarlake very close to the sources of the Indus and the Satluj**. It is slightly longer than the Indus, and most of its course lies outside India. It flows Eastwards parallel to the Himalayas. On reaching the NamchaBarwa (7757 m), it takes a 'U' turn and enters India in Arunachal Pradesh through a gorge. Here, it is called the Dihang and it is joined by the Dibang, the Lohit, and many other tributaries to form the Brahmaputra in Assam.
- **The Gandak** comprises two streams, namely Kaligandak and Trishulganga. It **rises in the Nepal Himalayas** between the Dhaulagiri and Mount Everest (**not near theMansarovarlake in Tibet)** and drains the central part of Nepal. It enters the Ganga plain in Champaran district of Bihar and joins the Ganga at Sonpur near Patna.

9th NCERT

Page no : 19 and 20

13. Consider the following statements with respect to the Ganga river system

1. The headwaters of the Ganga, called the 'Alaknanda' is fed by the Gangotri Glacier
2. At Haridwar, the Ganga emerges from the mountains and flows onto the plains
3. River Yamuna, as a left bank tributary meets the Ganga at Allahabad (Prayagraj)

Which of the statements given above is/are correct?

a) 1 and 3 only

b) 1 and 2 only

c) 2 only

d) 1, 2 and 3.

Ans : C

Explanation

- The Ganga is the most important river of India both from the point of view of its basin and cultural significance. It rises in **the Gangotri glacier** near GaumukhUttarkashi district of Uttarakhand.
- **Statement 1 is incorrect**: The **headwaters of the Ganga, called the 'Bhagirathi'** (**not Alaknanda**) is fed by the Gangotri Glacier and joined by the Alaknanda at Devaprayag in Uttarakhand.
- **Statement 2 is correct :** At Haridwar, the Ganga emerges from the mountains on to the plains.
- The Ganga is joined by **many tributaries from the Himalayas**, a few of them being major rivers, such as the Yamuna, the Ghaghara, the Gandak and the Kosi.
- **Statement 3 is incorrect:** The **river Yamuna** rises from the Yamunotri Glacier in the Himalayas. It flows parallel to the Ganga and as a **right bank tributary** (**not a left bank tributary**) meets the Ganga at **Allahabad.**

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Page no : 20

14. Consider the following pairs with respect to rivers and the places where they originate

Rivers		Source of origin
1. The Krishna	-	Mahabaleshwar
2. The Narmada	-	Chota Nagpur Plateau
3. The Kaveri	-	Brahmagiri range
4. The Mahanadi	-	Amarkantak hills

Which of the above pairs is/are INCORRECTLY matched?

a) 4 only

b) 1 and 2 only

c) 2 and 4 only

d) 2 and 3 only

Ans : C

Explanation

- **The Krishna river:** Rising from a spring near**Mahabaleshwar**, theKrishna flows for about 1400 km and reachesthe Bay of Bengal. The **Tungabhadra, the Koyana, the Ghatprabha**, the Musi and theBhima are some of its tributaries.
- **The Narmada river:** The **Narmada rises in the Amarkantak hills** (**not in Chota Nagpur plateau**) in Madhya Pradesh. It flows towards the West in a rift valley formed due to faulting. On its way to the sea, the Narmada creates many picturesque locations. **The 'Marble rocks',** near Jabalpur, where the Narmada flows through a deep gorge, and the **Dhuandhar falls**, where the river plunges over steep rocks, are some of the notable ones
- **The Mahanadi river:** The Mahanadi **rises near Sihawa in Raipur district of Chhattisgarh** and runs through Odisha to discharge its water into the Bay of Bengal. It is 851 km long and its catchment area spreads over 1.42 lakh sq. km.
- **The Kaveririver**: It rises in the **Brahmagiri range of the Western Ghats** and it reaches the Bay of Bengal in the South of Cuddalore in Tamil Nadu. The total length of the river is about 760 km. Its main tributaries are Amravati, Bhavani, Hemavati and Kabini.

9th NCERT

Page no : 21

15. Which of the following is/are the tributaries of river Godavari?

1. Koyana
2. Manjra
3. Penganga
4. Pranhita
5. Bhima

Select the correct answer using the codes given below

a) 2, 3 and 5 only

b) 1, 2, 3 and 4 only

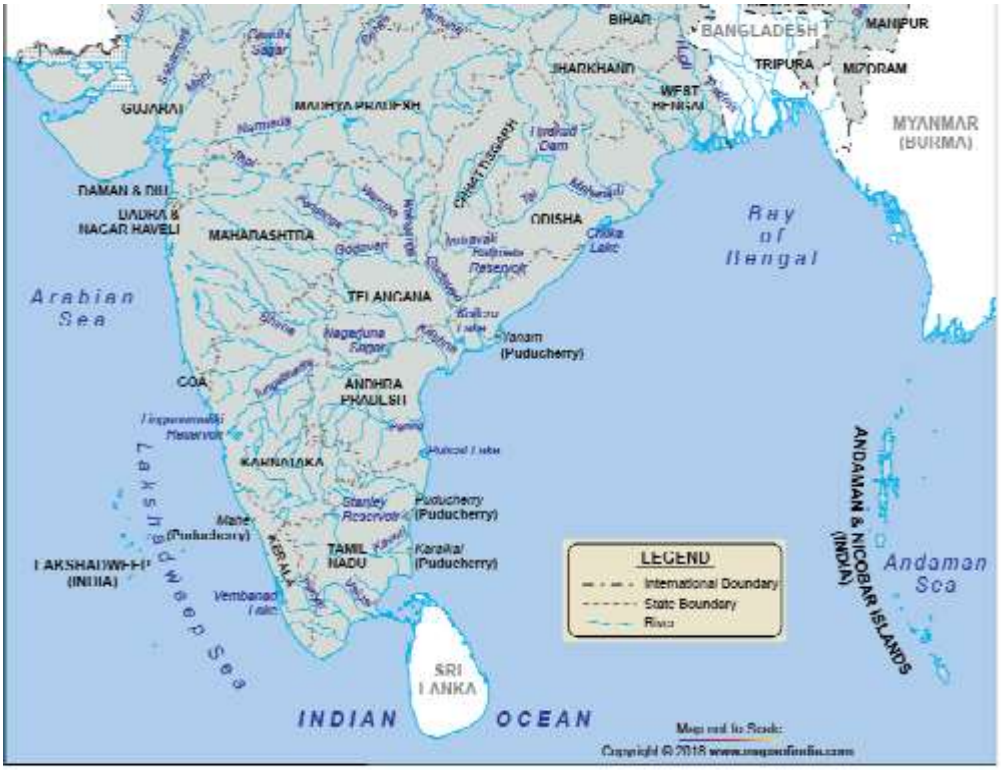
c) 1, 3 and 5 only

d) 2, 3 and 4 only

Ans : D

Explanation

- The Godavari is **the largest Peninsular river**. It rises from the slopes of the Western Ghats in Nasik district of Maharashtra. Its length is about 1500 km.
- It drains into the Bay of Bengal. Its drainage basin is also the largest among the peninsular rivers. The basin covers parts of Maharashtra (about 50 per cent of the basin area lies in Maharashtra), Madhya Pradesh, Odisha and Andhra Pradesh.
- The Godavari is joined by a number of **tributaries**, such as **the Purna, Wardha, the Pranhita, the Manjra, the Wainganga and the Penganga.** The last three tributaries are very large. Because of its length and the area it covers, it is also **known as the Dakshin Ganga**.
- **The Koyana and the bhima** are the tributaries of **river Krishna**



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Page no : 21

16. Consider the following statements regarding the Indus Water Treaty (1960)

1. It is a water-distribution treaty between India and Pakistan brokered by the World Bank

2. According to the treaty, all the water of Western rivers (Indus, Jhelum and Chenab) shall be available for unrestricted use in India.

3. The treaty allocates 80% of water from the Indus river system to Pakistan.

Which of the statements given above is/are correct?

a) 1 and 2 only

b) 1 only

c) 1 and 3 only

d) 1, 2 and 3.

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Ans : C

Explanation

- **Statement 1 is correct**: The Indus Water Treaty (IWT) is a **water-distribution treaty between India and Pakistan** signed on September 19, 1960. The treaty was signed by the then Prime Minister Jawaharlal Nehru and Pakistan's President Ayub Khan. It was **brokered by the World Bank** (InterNational Bank for Reconstruction and Development).
- **Statement 2 is incorrect**: According to treaty, **all the water of Eastern rivers shall be available for unrestricted use in India.** India should let unrestricted flow of water from **Western rivers to Pakistan.**
- It doesn't mean that India can't use Western river water. The treaty says that **India can use the water in Western rivers in "non-consumptive" needs**. Here non consumptive means we can use it for irrigation, storage and even for electricity production
- The **treaty allocates 80% of water from the six-river Indus water system to Pakistan**. India can use only 20 percent of the total water carried by Indus river system.

9th NCERT

Page no : 20

17. Consider the following lakes

1. Kolleru
2. Sambhar
3. PangongTso
4. Bhimtal

Which of the above is/are Salt water lakes found in India?

a) 2 and 4 only

b) 1 and 2 only

c) 1 and 3 only

d) 2 and 3 only

Ans : D

Explanation

- Kolleru Lake is one of the **largest freshwater lakes in India** located in state of Andhra Pradesh and forms the largest shallow freshwater lake in Asia. Kolleru is **located between Krishna and Godavari deltas**
- The **Sambhar Salt Lake**, India's **largest inland salt lake**, is located in the state of Rajasthan . It surrounds the historical Sambhar Lake Town. Lake has 5700 square km catchment area. The lake is an **extensive saline wetland**
- **PangongTso lake is a salt water lake** in Changthang region of Ladakh is an endorheic lake (that normally retains water and allows no outflow to other external bodies of water) in the Himalayas situated at a height of about 4,350 m. During **winter the lake freezes completely, despite being saline water.**
- **Bhimtal Lake** is a **freshwater lake** in the town of Bhimtal, in the Indian state of **Uttarakhand** with a masonry dam built in 1883 creating the storage facility. It is the largest lake in Kumaon region, known as the "**lake district of India".** The lake provides **drinking water supply** and supports aquaculture with variety of fish species.

9th NCERT

Page no : 22

18. Consider the following statements with respect to the Andaman and Nicobar group of Islands

1. These are the elongated chain of islands located in the Bay of Bengal extending from North to South
2. Since these islands lie close to the tropics, it experiences only the tropical climate
3.Andaman and Nicobar groups of Islands are separated by a water body called the Ten degree channel

Which of the statements given above is/are correct?

a) 1 and 2 only

b) 1 and 3 only

c) 3 only

d) 1, 2 and 3.

Ans: B

Explanation

- **Statement 1 is correct:** Andaman and Nicobar islands are the **elongated chain of islands located in the Bay of Bengal** extending from North to South. They are bigger in size and are more numerous and scattered.

- **Statement 3 is correct**: The entire group of islands is divided into two broad categories – The Andaman in the North and the Nicobar in the South. It is believed that **these islands are an elevated portion of submarine mountains**. Andaman and Nicobar groups of Islands are **separated by a water body called the Ten degree channel**
- **Statement 2 is incorrect:** These **islands lie close to the equator and experience equatorial climate and has thick forest cover**. These island groups are of great strategic importance for the country. There is great diversity of flora and fauna in this group of islands.

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Page no : 14

19. Consider the following statements regarding the Coriolis force

1. It is an apparent force caused by the earth's revolution around the Sun

2. It is responsible for deflecting winds towards the left in the Northern hemisphere and towards the right in the Southern hemisphere.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : D

Explanation

- **Statement 1 is incorrect:** An apparent force caused by the **earth's rotation about its axis** (not because of earth's revolution)

- The direction of surface winds is usually controlled by the pressure gradient and rotation of the earth. Because of the rotation of the earth along its axis the winds are deflected. The **force which deflects the direction of winds is called deflection force**. **This force is also called coriolis force** on the basis of famous scientist G.G. Coriolis.

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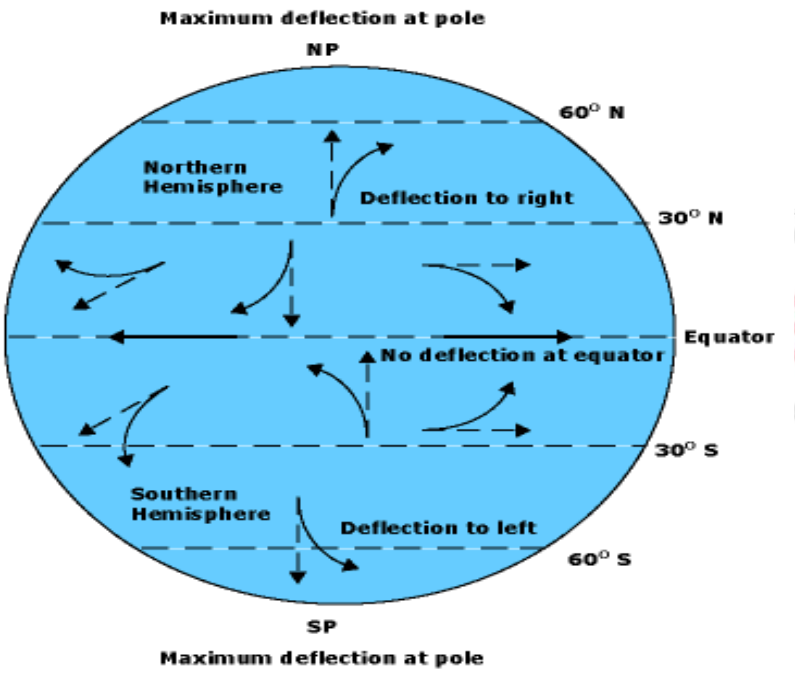


- **Statement 2 is incorrect:** The Coriolis force is responsible for **deflecting winds towards the right in the Northern hemisphere and towards the left in the Southern hemisphere**. This is also known as 'Ferrel's Law'

- This is why **winds blow counterclockwise around the centre of low pressure** (to make cyclonic circulation) in the **Northern hemisphere** while they blow clockwise in the Southern hemisphere.

9th NCERT

Page no : 28

20. Which of the following statements is correct regarding the flow of jet streams in India?

a) Over India, subtropical Westerly jet streams blow South of the Himalayas, all through the year except in winter

b) In winter, the subtropical Westerly jet stream moves North of the Himalayas with the apparent movement of the sun

c) During the summer months, an Easterly jet stream called the sub-tropical Easterly jet stream blows over peninsular India

d) None of the above given statements is correct

Ans : C

Explanation

- South West monsoon winds blow over warm oceans, gather moisture and bring widespread rainfall over the mainland of India. The **upper air circulation in this region is dominated by a Westerly flow**. An important component of this flow is the jet stream. These jet streams are located approximately over 27°-30° North latitude, therefore, they are known as subtropical Westerly jet streams.
- **Option A is incorrect:** Over India, these jet streams **blow South of the Himalayas, all through the year except in summer** (not winter)
- The **Western cyclonic disturbances** experienced in the North and North-Western parts of the country are **brought in by this Westerly flow**.
- **Option B is incorrect:In summer(not in winter)**, the subtropical Westerly jet stream moves North of the Himalayas with the **apparent movement of the sun**.
- **Option C is correct:** An Easterly jet stream, called the **sub-tropical Easterly jet stream blows over peninsular India,** approximately over 14°N during the summer months

JET STREAMS

- These are a **narrow belt of high altitude** (above 12,000 m) Westerly winds in the troposphere. Their speed varies from about 110 km/h in summer to about 184 km/h in winter. A number of separate jet streams have been identified. The **most constant are the mid-latitude and subtropical jet stream.**

9th NCERT

Page no : 28

21. Consider the following statements with respect to the Western Cyclonic Disturbances

1. These are weather phenomena of the winter months which originate over the Mediterranean Sea and brought into India by the Westerly jet stream

2. They usually influence the weather of the North-Eastern region of India.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : A

Explanation

- **Statement 1 is correct**: The Western cyclonic disturbances are **weather phenomena of the winter months** brought in by the Westerly flow from the Mediterranean region.
- **Statement 2 is incorrect**: They usually **influence the weather of the North and North-Western regions of India.**
- Western Disturbances are **low pressure systems, embedded in Western winds (Westerlies)** that flow from the West to the East.
- **Arrival in India**

 The low pressure typically forms over the Mediterranean Sea and travels over Iran, Iraq, Afghanistan and Pakistan before entering India loaded with moisture.

 These **moisture laden Western disturbances eventually** come up against the himalayas and get blocked, as a consequence, the moisture gets trapped and precipitation is shared in **the form of snow and rain over NorthWest India** and sometimes, in other parts of North India.

9th NCERT

Page no : 28

22. Which of the following conditions/phenomena influences the Indian Monsoon?

1. The differential heating and cooling of land and water
2. Intense heating of the Tibetan plateau during summer
3. The presence of the low-pressure area to the East of Madagascar
4. Presence of the tropical Easterly jet stream over the Indian peninsula during summer.

Select the correct answer using the codes given below

a) 1 and 2 only

b) 1, 2 and 3 only

c) 1, 2 and 4 only

d) 1, 2, 3 and 4

Ans : C

Explanation

To understand the mechanism of the monsoons, the following facts are important

- **The differential heating and cooling** of land and water c**reates low pressure on the landmass of India** while the seas around experience comparatively high pressure.
- The **shift of the position of Inter Tropical Convergence Zone (ITCZ) in summer**, over the Ganga plain (this is the equatorial trough normally positioned about 5°N of the equator. It is also known as the monsoon trough during the monsoon season).
- The **presence of the high-pressure area (**not low pressure area**) East of Madagascar**, approximately at 20°S over the Indian Ocean. The intensity and position of this high-pressure area affects the Indian Monsoon.
- The **Tibetan plateau gets intensely heated during summer**, which results in strong vertical air currents and the formation of low pressure over the plateau at about 9 km above sea level.
- The movement of the Westerly jet stream to the North of the Himalayas and the **presence of the tropical Easterly jet stream over the Indian peninsula during summer.**
- The formation of Tropical Easterly jet stream results in the **reversal of upper air circulation patterns** [**High pressure switches to low pressure**] and leads to the quick onset of monsoons.

9th NCERT

Page no : 30

23. Consider the following statements with respect to the Inter Tropical Convergence Zone (ITCZ)

1. It is a low pressure zone located in equatorial latitudes

2. It is a zone of convergence of the NorthEast and SouthEast trade winds

3. This zone lies more or less parallel to the equator but moves North or South with the apparent movement of the sun.

Which of the statements given above is/are correct?

a) 2 only

b) 2 and 3 only

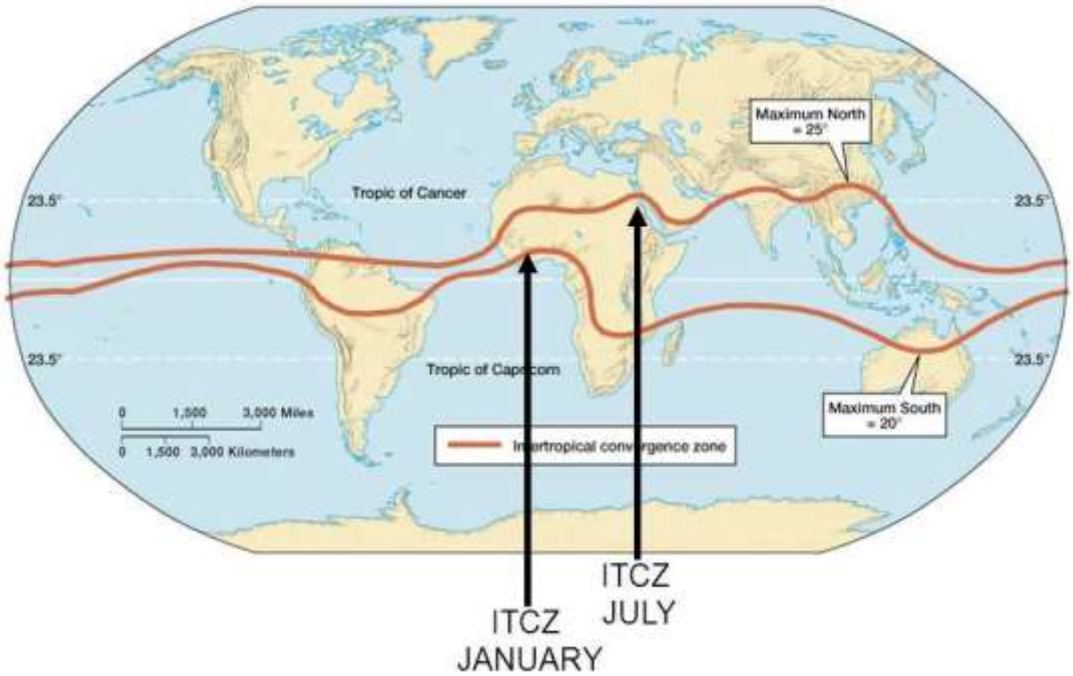
c) 1, 2 and 3

d) 1 and 2 only

Ans : C

Explanation

- **Statement 1 is correct:** The Inter Tropical Convergence Zone (ITCZ) is a **broad trough of low pressure in equatorial latitudes.**
- **Statement 2 is correct:** This is where the **NorthEast and SouthEast trade winds converge**. The ITCZ play important role in the **global circulation system** and also known as the **Equatorial Convergence Zone**
- **Statement 3 is correct:** This convergence zone lies more or less parallel to the equator but **moves North or South with the apparent movement of the sun.**



9th NCERT

Page no : 30

24. Consider the following

1. Weakening of low pressure trough over the Northern plains
2. Clear sky
3. Low temperature and low humidity

Which of the above conditions is/are associated with the retreating monsoon?

a) 1 and 2 only

b) 2 only

c) 1 and 3 only

d) 2 and 3 only

Ans : A

Explanation

Retreating/Post Monsoons

- During October-November, with the apparent movement of the sun towards the South, the monsoon trough or **the low-pressure trough over the Northern plains becomes weaker**. This is gradually replaced by a high-pressure system.
- The South-West monsoon winds weaken and start withdrawing gradually. By the beginning of October, the monsoon withdraws from the Northern Plains.
- The months of October-November form a **period of transition from hot rainy season to dry winter conditions.**
- The retreat of the monsoon is **marked by clear skies** and **rise in temperature**. While day temperatures are high, the nights are cool and pleasant. The land is still moist.
- **Owing to the conditions of high temperature and high humidity**, the weather becomes rather oppressive during the day. This is **commonly known as 'October heat'**.

9th NCERT

Page no : 35

25. Consider the following statements regarding the Cold Weather Season (winter) in India

1. During this season, the Westerly winds prevail over the country.
2. December and January are the coldest months in the Northern part of India

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : B

Explanation

- **Statement 2 is correct:** The cold weather season **begins from mid- November in Northern India and stays till February**.
- **December and January are the coldest months** in the Northern part of India.
- The temperature **decreases from South to the North**. Frost is common in the North and the higher slopes of the Himalayas experience snowfall
- **Statement 1 is incorrect:** During this season, the **NorthEast trade winds (not Westerly winds) prevail over the country**. They blow from land to sea and hence, for most part of the country, it is a dry season.
- Some amount of **rainfall occurs on the Tamil Nadu coast** from these winds, as here they blow from sea to land
- A **characteristic feature of the cold weather season** over the Northern plains is the inflow of **cyclonic disturbances from the West** and the NorthWest. These low-pressure systems, originate over the Mediterranean Sea and Western Asia and move into India, along with the Westerly flow.

9th NCERT

Page no : 31

26. Which of the following statements correctly describes the 'Loo' winds?

a) These are dreaded evening thunderstorms which occurs in Eastern and NorthEastern India

b) These are pre-monsoon showers which are common phenomena in the South and South Western India, towards the end of summer season

c) These are narrow belt of high altitude winds which blows over Peninsular India during the summer months.

d) These are strong, gusty, hot and dry winds which blows during the day over the North and NorthWestern India

Ans : D

Explanation

- **Loo winds**: These are strong, gusty, hot and dry winds which blows**during the day over the North and NorthWestern India.** These winds blow in the Northern plains from Punjab to Bihar with higher intensity between Delhi and Patna.
- **Option A: Nor Westers** - These are **dreaded evening thunderstorms** in Bengal and Assam. These showers are useful for tea, jute and rice cultivation.
- **Option B:Mango Shower** - Towards the end of summer, there are pre-monsoon showers which are a common phenomena in Kerala and coastal areas of Karnataka. Locally, they are known as mango showers since they **help in the early ripening of mangoes**.
- **Option D: Sub- tropical Easterly jet stream -**These are narrow belt of high altitude winds which blows over Peninsular India during the summer months.

9th NCERT

Page no : 33

27. Which of the following Biosphere reserves in India have been included in the World Network of Biosphere Reserves, based on the UNESCO Man and the Biosphere (MAB) Programme?

1. Sundarbans Biosphere Reserve
2. Nanda Devi Biosphere Reserve
3. Agasthyamalai Biosphere Reserve
4. Similipal Biosphere Reserve

Select the correct answer using the codes given below

a) 1 and 3 only

b) 1 and 2 only

c) 1, 2 and 4 only

d) 1, 2, 3 and 4.

Ans : D

Explanation

- Biosphere Reserve (BR) is an **interNational designation by UNESCO** for representative parts of natural and cultural landscapes extending over large **area of terrestrial or coastal/marine ecosystems or a combination** thereof.
- BRs are designated to deal with one of the most important questions of reconciling the **conservation of biodiversity, the quest for economic and social development** and maintenance of associated cultural values

  In India, there are **18 Biosphere reserves**, out of which **11 have been included in the World Network of Biosphere Reserves,** based on the UNESCO Man and the Biosphere (MAB) Programme
- 11 interNationally recognised Biosphere Reserves (World network of biosphere reserves)in India are

- Nilgiri
- Gulf of Mannar
- **Sunderbans**
- **Nanda Devi**
- Nokrek
- Pachmarhi
- **Similipal**
- Achanakmar-Amarkantak
- Great Nicobar
- **Agasthyamala**
- Khangchendzonga

9th NCERT

Page no : 50

28. Arrange the following states in descending order, in terms of percentage of forest cover to the total area of State?

1. Kerala
2. Arunachal Pradesh
3. Jharkhand

4. Mizoram

Select the correct answer using the codes given below

a) 2-4-1-3

b) 4-2-1-3

c) 2-4-3-1

d) 4-2-3-1

Ans : B

Explanation

- **The State of Forest Report 2017** states **that Mizoram has the highest forest cover** as a percentage of its geographical area of any Indian state having **86.27%** of its land area as forest
- Arunachal Pradesh **has 79.96 percent of its total land area under forest cover**
- Kerala **has 52.30 percent of its total land area** under forest cover
- Jharkhand **has 29.55 percent of its total land area** under forest cover

Source: http://fsi.nic.in/isfr2017/isfr-forest-cover-2017.pdf

9th NCERT

Page no : 46

29. These forests are found in areas receiving rainfall between 200 and 100 cm. These forests exist, mostly in the Eastern part of the country — NorthEastern states, along the foothills of the Himalayas, Jharkhand, West Odisha and Chhattisgarh, and on the Eastern slopes of the Western Ghats. Teak is the most dominant species of this forest. Bamboos, sal, shisham, sandalwood, khair, kusum and mulberry are other commercially important species.

The above description refers to which of the following forest?

a) Tropical evergreen forest

b) Tropical dry deciduous forest

c) Tropical semi evergreen forest

d) Tropical moist deciduous forest

Ans : D

Explanation

Tropical Deciduous Forests

- These are the **most widespread forests of India**. They are also called the **monsoon forests** and spread over the region receiving rainfall between 200 cm and 70 cm. Trees of this forest type **shed their leaves for about six to eight weeks in dry summer**.

  On the basis of the availability of water, these forests are **further divided into moist and dry deciduous**.
- **Tropical moist deciduous forest** : The former is found in areas receiving **rainfall between 200 and 100 cm.** These forests exist, therefore, mostly in the Eastern part of the country — NorthEastern states, along the foothills of the Himalayas, Jharkhand, West Odisha and Chhattisgarh, and on the Eastern slopes of the Western Ghats. **Teak is the most dominant species of this forest.** Bamboos, sal, shisham, sandalwood, khair, kusum, arjun and mulberry are other commercially important species.

9th NCERT

Page no : 46

30. Which of the following is/are adaptation by trees grown in the Thorn Forests?

1. Succulent stems
2. Shallow roots lying close to the surface of soil
3. Leaves are thick with waxy covering

Select the correct answer using the codes given below

a) 1 and 3 only
b) 2 and 3 only
c) 1 and 2 only
d) 1, 2 and 3.

Ans: A

Explanation

- In regions with **less than 70 cm of rainfall**, the natural vegetation consists of **thorny trees and bushes.**
- This type of vegetation is found in **the North-Western part of the country**, including semi-arid areas of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Haryana**. Acacias, palms, euphorbias and cacti are the main plant species.**

ADAPTATIONS BY TREES IN THORN FOREST

- Trees are scattered and **have long roots penetrating deep into the soil** in order to get moisture.
- The **stems are succulent to conserve water**.
- Leaves are **mostly thick and has waxy covering to minimize evaporation**.

9th NCERT

Page no : 46

31. In which one of the following regions in India, one could find both the tropical evergreen forest and mangrove forest?

a) Southern Saurashtra

b) Andaman and Nicobar Islands

c) South-West Bengal

d) North Coastal Andhra Pradesh

Ans : B

Explanation

- Andaman and Nicobar Islands is rich in biodiversity. Different types of forests as Tropical **Evergreen forests, Moist Deciduous forests, Mangrove forests**, Littoral forests are found here.
- The soil of Andaman and Nicobar Islands **is favorable for tropical evergreen forest and semi-evergreen forests;** in some regions, the soil and vegetation of Andaman and Nicobar Islands also supports tropical monsoon
- In Andaman group of islands alone, **area under mangrovesis 612 sq.km**, while in Nicobar group of island mangroves occupy only 3 sq. km.

- Area wise **Andaman & Nicobar Islands are third in the country** after West Bengal and Gujarat.
- At places, this **salt tolerant community is found on rock shores** subjected to tidal action and regular deposits of mud. Luxuriant mangrove can be seen in **Shoal Bay (South Andaman), Yerrata (Middle Andaman) etc**

9th NCERT

Page no: 32

32. Consider the following statements with respect to Virgin vegetation

1. It refers to a plant community, which has grown naturally without human aid and has been left undisturbed by humans for a long time

2. Those virgin vegetation which are purely Indian are known as Indigenous species

3. Cultivated crops does not form part of virgin vegetation

Which of the statements given above is/are INCORRECT?

a) 3 only

b) 2 and 3 only

c) 1 and 2 only

d) None of the above

Ans : D

Explanation

- **Statement 1 is correct:** Natural vegetation refers to a plant community, which has **grown naturally without human aid and has been left undisturbed by humans** for a long time. This is **termed as a virgin vegetation.**
- **Statement 3 is correct:** Thus, **cultivated crops** and fruits, orchards form part of vegetation but **not natural/virgin vegetation.**
- **Statement 2 is correct:** The virgin vegetation, which are **purely Indian are known as endemic or indigenous species** but those which have come from outside India are termed as exotic plants.

9th NCERT

Page no: 42

33. Consider the following pairs with respect to National Parks and the state in which they are located

List I		List II
1. Keoladeo Ghana National Park	-	Rajasthan
2. Dudhwa National Park	-	Bihar
3. Tadoba National Park	-	Chhattisgarh

Which of above pairs is/are correctly matched?

a) 1 and 3 only

b) 1 only

c) 1, 2 and 3

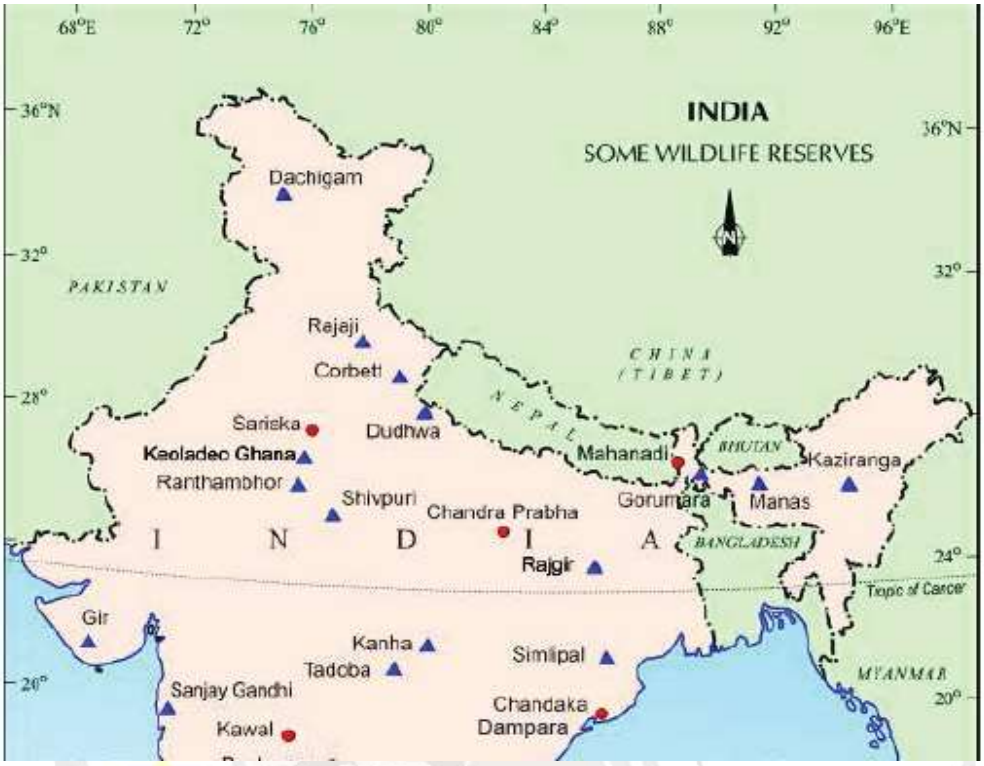
d) 1 and 2 only.

Ans : B

Explanation

- National Park is an area which is **strictly reserved for the betterment of the wildlife & biodiversity**, and where activities like developmental, forestry, poaching, hunting and grazing are not permitted.
- The **State Government shall publish a notification** specifying the limits of the area which shall be comprised within the National Park and declare that the said area shall be a National Park on and from such date as may be specified in the notification, As of May 2019, there were **104 National Parks in India**

- **Keoladeo Ghana National Park** formerly known as the **Bharatpur Bird Sanctuary** in Bharatpur, **Rajasthan**. It is a famous **avifauna sanctuary** that hosts thousands of birds, especially during the winter season.It is also a **World Heritage Site.**
- **Dudhwa National Park** is a National Park in the **Terai belt** of marshy grasslands of Northern **Uttar Pradesh**. It represents one of the few remaining examples of a highly diverse and productive Terai ecosystem, supporting many endangered species
- Notably **Maharashtra's oldest and largest National Park**, the "**Tadoba National Park**", also known as the "TadobaAndhari Tiger Reserve" is one of India's 47 project Tiger Reserves existing in India.



9th NCERT

Page no: 49

34. Which one of the following statements is INCORRECT with respect to Census in India?

a) The Indian Census is the comprehensive source of demographic, social and economic data

b) According to the Census 2011, a person aged 5 years and above, who can read and write with understanding in any language, is treated as literate.

c) The first complete census was taken in the year 1881, since then censuses have been held regularly every tenth year.

d) According to the Census 2011, Bihar and Arunachal Pradesh are the states with the highest and loWest population density in the country respectively.

Ans : B

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Explanation

- **Option A is correct:** A census is an official enumeration of population done periodically. The Indian Census is the **most comprehensive source of demographic, social and economic data**
- **Option B is incorrect:** According to the Census 2011, a **person aged 7 years and above (not 5 yrs and above),** who can read and write with understanding in any language, is treated as literate
- **Option C is correct:** In India, the first census was held in the year1872. **The first complete census, however, was taken in the year 1881**. Since then, censuses have been held regularly every tenth year.
- **Option D is correct:** According to the Census 2011, Bihar and Arunachal Pradesh are the states with the highest and loWest population density in the country respectively
- The population density of India in the year 2011 was **382 persons per sq km**. Densities vary from **1,102 persons per sq km in Bihar** to only **17 persons per sq km in Arunachal Pradesh.**

9th NCERT

Page no: 53 and 58

35. Consider the following statements regarding the Peninsular plateau

1. It was formed due to the breaking and drifting of the Gondwana land and thus making it a part of the oldest landmass

2. The part of the peninsular plateau lying to the South of the Narmada river is known as the Central Highlands

3. Meghalaya Plateau, Karbi-Anglong Plateau and North Cachar Hills forms a part of peninsular plateau

Which of the statements given above is/are correct?

a) 1 and 3 only

b) 2 and 3 only

c) 1 only

d) 1, 2 and 3.

Ans : A

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Explanation

- **Statement 1 is correct:** The Peninsular plateau is a tableland composed of the old crystalline, igneous and metamorphic rocks. It was **formed due to the breaking and drifting of the Gondwana land** and thus, making it a part of the oldest landmass.
- **Statement 2 is incorrect:** This plateau consists of two broad divisions, namely, the Central Highlands and the Deccan Plateau.
- The part of the Peninsular plateau **lying to the North of the Narmada river**(not South of Narmada river) covering a major area of the Malwa plateau, is **known as the Central Highlands**
- **Statement 3 is correct :** An extension of the Peninsular Plateau is **also visible in the NorthEast,** locally known as the Meghalaya plateau, Karbi-Anglong Plateau and North Cachar Hills
- It is believed that due to the **force exerted by the NorthEastward movement of the Indian plate** at the time of the Himalayan origin, a huge fault was created between the Rajmahal hills and the Meghalaya plateau.
- Later, this depression got filled up by the deposition activity of the numerous rivers. Today, **Meghalaya and KarbiAnglong plateau stand detached** from the main Peninsular Block.

9th NCERT

Page no: 13

36. Consider the following statements with respect to the Western Ghats and the Eastern Ghats

1. While the Western Ghats are continuous, the Eastern Ghats are discontinuous and irregular
2. The height of the Western Ghats progressively increases from South to North
3. The AnaiMudiis the highest peak in the Western Ghats.

Which of the statements given above is/are correct?

a) 1 and 2 only

b) 1 only

c) 1, 2 and 3.

d) 1 and 3 only.

Ans : D

Explanation

- **Statement 1 is correct**: The Western Ghats and the Eastern Ghats **mark the Western and the Eastern edges of the Deccan Plateau respectively**. Western Ghats lie parallel to the Western coast. **They are continuous** and can be crossed through passes only.
- The Eastern Ghats stretch from the Mahanadi Valley to the Nigiris in the South.The**Eastern Ghats are discontinuous and irregular** and dissected by rivers draining into the Bay of Bengal
- **Statement 2 is incorrect**: The Western Ghats **are higher than the Eastern Ghats**. Their average elevation is 900– 1600 metres as against 600 metres of the Eastern Ghats. The **height of the Western Ghats progressively increases from North to South**
- The Western Ghats cause orographic rain by facing the rain bearing moist winds to rise along the Western slopes of the Ghats.
- **Statement 3 is correct**The highest peaks in **Western Ghats include the AnaiMudi (2,695 metres)** and the DodaBetta (2,637 metres).
- **9th NCERT**

  Page no: 13

37. Consider thefollowing statements

1. India shares its land border with 7 countries.

2. The total length of the coastline of India including Andaman and Nicobar and Lakshadweep islands is 15,200 km.

3. In India, the Himalayas are spread over five States only

Which of the statements given above is/are correct?

a) 1 only

b) 1 and 3 only

c) 3 only

d) 1 and 2 only.

Ans : A

Explanation

- **Statement 1 is correct**: India shares its land boundaries with **Pakistan and Afghanistan** in the NorthWest, **China (Tibet), Nepal and Bhutan** in the North and **Myanmar and Bangladesh** in the East. So India shares land border **with 7 countries only**
- **Statement 2 is incorrect**: India has a land boundary of about 15,200 km and the **total length of the coastline of the mainland**, including Andaman and Nicobar and Lakshadweep is **7,516.6 km**.
- **Statement 3 is incorrect:** The Indian Himalayan Region (IHR) is spreading on **more than 5 states** namely, Jammu & Kashmir, Himachal Pradesh, Uttaranchal, Sikkim, Arunachal Pradesh, Meghalaya, Nagaland, Manipur, Mizoram, Tripura, and **hill regions of 2 states** viz. Assam and West Bengal of Indian Republic.

9th NCERT

Page no: 2 and 4

38. Which one of thefollowing best describes the climatic effect of condition known as 'Continentality'?

a) Very hot summers and moderate winters

b) Very hot summers and very cold winters

c) Moderate summers and very cold winters

d) Moderate summers and moderate winters

Ans: B

Explanation

There are **six major factors** which influences the climate of any place. They are: latitude, altitude, pressure and wind system**, distance from the sea,** ocean currents and relief features.

- The **sea exerts a moderating influence** on climate: As the **distance from the sea increases, its moderating influence decreases** and the **people experience extreme weather conditions**.
- The above condition is known as **continentality** (i.e. **very hot during summers and very cold during winters).**
- **Continentality is a climatic effect** that results from a **continental interior being insulated from oceanic influences.**
- Interiors of continents are **too distant to experience the moderating effect**. As a result, climates of continental interiors have **great seasonal differences of temperatures**

9th NCERT

Page no: 27

39. Consider the following statements regarding the riverine islands

1. These islands are formed in the lower course of the river, where the gentle slope and lower river velocity aids the depositional work.

2. 'Majuli' in the Ganga river, is the largest inhabited riverine island in the world.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans : A

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Explanation

- **Statement 1 is correct:** Riverine islands are those islands which have developed inside a river**.** The rivers coming from Northern mountains are involved in **depositional work.** In the lower course, **due to gentle slope, the velocity of the river decreases**, which results in the formation of riverine islands.
- **Statement 2 is incorrect**: '**Majuli', in the Brahmaputra river** (not in the Ganga river), is the largest inhabited riverine island in the world.

9th NCERT

Page no: 14

40. Consider the following statements with respect to the Indian Desert

1. It is an undulating sandy plain covered with sand dunes
2. It lies towards the Eastern margins of the Aravali Hills
3. Chambal is the only large river which flows in this region.

Which of the statements given above is/are correct?

a) 2 and 3 only
b) 1 and 2 only
c) 1 only
d) 1 and 3 only.

Ans : C

Explanation

- **Statement 2 is incorrect:** The Indian desert **lies towards the Western margins** (not Eastern margins) of the Aravali Hills.
- **Statement 1 is correct:** It is an **undulating sandy plain** covered with sand dunes. This region receives **very low rainfall below 150 mm per year**. Barchans (crescent-shaped dunes) cover larger areas of this desert, but longitudinal dunes become more prominent near the Indo-Pakistan boundary.
- **Statement 3 is incorrect:** It has an arid climate with low vegetation cover. **Streams appear during the rainy season**. Soon after they disappear into the sand as they do not have enough water to reach the sea. **Luni is the only large river , which flows in this region**.

9th NCERT

Page no : 14

41. Consider the following pairs

Multipurpose river valley projects		**Rivers associated**
1. Hirakud project	-	Mahanadi
2. Bhakra-Nangal project	-	Beas
3. Gandhi Sagar project	-	Chambal
4. NagarjunaSagar project	-	Godavari

Which of the above pairs is/are correctly matched?

a) 3 and 4 only

b) 1 only

c) 1 and 3 only

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d) 1, 2 and 3 only

Ans: C

Explanation

- **Hirakud Dam** is built across the **Mahanadi River**, about 15 kilometres from Sambalpur in the **state of Odisha** in India. It is one of the first **major multipurpose river valley projects** started after India's independence. It is India's largest dam. The dam **helps control floods** in the Mahanadi delta and irrigates 75,000 km^2 of land.
- **The Bhakra-Nangal multipurpose** dams are **located in the state of Himachal Pradesh** and named after the two dams built at Bhakra and Nangal on the **Satluj River (not beas river)**. The project comprises of (i) two dams at Bhakra and Nangal (ii) **power houses** with a combined installed capacity of 1,204 megawatt (M.W.) and (iii) Bhakra**canal system for irrigation**
- **The Gandhi Sagar Dam** is one of the four major dams **built on India's Chambal River**. The dam is located in the **state of Madhya Pradesh**. It is a **masonry gravity dam** standing 62.17 metres high
- The dam sports a total **energy generation of about 564 GWh**. The water released after power generation is used for the irrigation of 427,000 hectares by the Kota Barrage
- **NagarjunaSagar Dam** is a **masonry dam across the Krishna river (not Godavari river)**. The dam created a water reservoir with **gross storage capacity** of 11.472 billion cubic metres. The dam is 590 feet tall from its deepest foundation and 0.99 miles long with 26 flood gates

10TH NCERT

Page no: 28

42. The terms 'Khadins', 'Johads' and 'Kuls' are associated with which of the following?

a) Nomadic herding

b) Primitive form of mineral extraction

c) Particularly Vulnerable Tribal Groups

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d) Traditional water conservation practices

Ans: D

Explanation

- In ancient India, along with the sophisticated hydraulic structures, there existed an extraordinary **tradition of water-harvesting system**.
- People had in-depth knowledge of rainfall regimes and soil types and developed **wide ranging techniques to harvest rainwater, groundwater, river water and flood water** in keeping with the local ecological conditions and their water needs.
- In **hill and mountainous regions**, people built diversion channels like the **'guls' or 'kuls'** of the Western Himalayas for agriculture.
- '**Rooftop rainwater harvesting'** was commonly practised to store drinking water, particularly in Rajasthan.
- In **arid and semi-arid regions**, agricultural fields were converted into **rain fed storage structures** that allowed the water to stand and moisten the soil like the '**khadins' in Jaisalmer** and **'Johads'** in other parts of Rajasthan.

10TH NCERT

Page no: 30

43. Consider the following statements with respect to 'Agenda 21'

1. It was adopted at the United Nations Conference on Sustainable Development (UNCSD) in 2012

2. It is an agenda to combat environmental damage, poverty, disease through global co-operation on common interests, mutual needs and shared responsibilities.

3. One major objective of the Agenda 21 is that every local government should draw its own local Agenda 21.

Which of the statements given above is/are correct?

a) 2 only

b) 2 and 3 only

c) 1 and 2 only

d) 1, 2 and 3 only

Ans: B

Explanation

- In June 1992, more than 100 heads of states met in **Rio de Janeiro in Brazil, for the first InterNational Earth Summit**.
- The Summit was convened to address urgent problems of **environmental protection and socioeconomic development** at the global level.
- The assembled leaders signed **the Declaration on Global Climatic Change and Biological Diversity**.
- The Rio Convention endorsed the global Forest Principles and adopted Agenda 21 for achieving Sustainable Development in the 21st century.
- **Statement 1 is incorrect:** Agenda 21 is the declaration signed by world leaders **in 1992 at the United Nations Conference on Environment and Development (UNCED),** which took place in Rio de Janeiro, Brazil. It aims at achieving global sustainable development.
- It is the "**Voluntary" action plan** of the United Nations (UN) related to sustainable development. This 40 point document was a **comprehensive blueprint of action** to be taken **globally, Nationally and locally** by organizations of the UN, governments, and major groups in every area in which humans directly affect the environment.
- **Statement 2 is correct:** It is an agenda to **combat environmental damage, poverty, disease through global co-operation** on common interests, mutual needs and shared responsibilities.
- **Statement 3 is correct:** One major objective of the Agenda 21 is that every local government **should draw its own local Agenda 21.**

10TH NCERT

Page no: 03

44. Which of the following is included under the Gross cropped area

1. Net sown area
2. Current fallow lands
3. Area sown more than once in an agricultural year

Select the correct answer using the codes given below

a) 3 only

b) 1 and 2 only

c) 1, 2 and 3

d) 1 and 3 only

Ans: D

Explanation

Gross cropped area

- **Area sown more than once in an agricultural year plus net sown area** is known as gross cropped area.
- Gross Cropped Area (GCA) is the **total area sown once as well as more than once** in a particular year.

 Example: When the crop is sown on a piece of land for twice a year, then the area is counted twice while calculating the Gross Cropped Area (GCA)

Land resources are used for the following purposes

- Forests
- Land not available for cultivation

 Barren and waste land

 Land put to non-agricultural uses, e.g.buildings, roads, factories, etc.

- **Other uncultivated land** (excluding fallow land)Permanent pastures and grazing land,

 Land under miscellaneous tree crops groves (not included in net sown area)

 Cultruable waste land (left uncultivated for more than 5 agricultural years)

- **Fallow lands**

 Current fallow - (left without cultivation for **one or less than one agricultural year**)

 Other than current fallow - (left uncultivated for the past 1 to 5 agricultural years

- Net sown area

 Area sown more than once in an agricultural year plus net sown area is known **as gross cropped area.**

10TH NCERT

Page no: 05

45. Which one of the following conditions is most appropriate for the cultivation of Jute?

a) Laterite soils in Eastern coastal regions of India with moderate temperature conditions

b) Sandy soils in arid and semi-arid regions with hot and dry climate

c) Well-drained fertile soils in the flood plains and high temperature during the time of growth.

d) Water retaining soils in hilly areas where the mean annual temperature is generally lower than plains

Ans: C

Explanation

- Jute is known as the **golden fibre**.
- Jute **grows well on well-drained fertile soils in the flood plains** where soils are renewed every year.
- **High temperature** is required during the time of growth.
- West Bengal, Bihar, Assam, Odisha and Meghalaya are the **major jute producing states**.
- It is used in **making gunny bags, mats, ropes, yarn, carpets** and other artefacts. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon.
- **Option A is incorrect:** After adopting appropriate soil conservation techniques particularly in the hilly areas of Karnataka, Kerala and Tamil Nadu, laterite soil is **very useful for growing tea and coffee.** Red laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for crops like **cashew nut**
- **Option B is incorrect:** Sandy soils in arid and semi arid zones are suitable for cultivation of dryland crops

 Example: Jowar, Bajraetc

10TH NCERT

Page no: 42

46. Arrange the following land use categories in decreasing order of their percentage share in total geographical area

1. Area under non-agricultural uses

2. Forest

3. Barren and unculturable waste land

Select the correct answer using the codes given below

a) 1-2-3

b) 3-1-2

c) 1-3-2

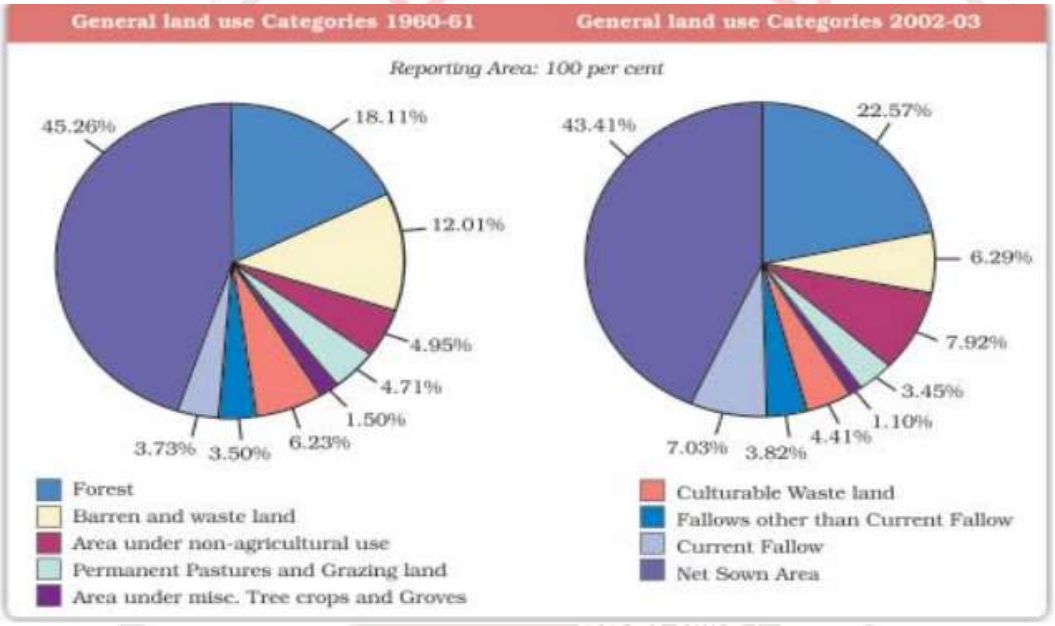
d) 2-1-3

Ans: D

Explanation

LAND USE PATTERN IN INDIA

- The use of land is **determined both by physical factors** such as topography, climate, soil types as well as human factors such as population density, technological capability and culture and traditions etc.



10TH NCERT

Page no: 06

47. Consider the following statements with respect to the Regur soil

1. This type of soil is typical of the Deccan trap (Basalt) region spread over NorthWest Deccan plateau
2. These soils are generally rich in phosphoric contents
3. These soils are ideal for cotton cultivation

Which of the statements given above is/are correct?

a) 2 and 3 only

b) 1 and 3 only

c) 1, 2 and 3

d) 3 only

Ans: B

Explanation

BLACK SOILS

- These soils are black in colour and are **also known as regur soils**.
- **Statement 3 is correct:** Black soil is **ideal for growing cotton** and is also known as black cotton soil. It is believed that climatic condition along with the parent rock material is the important factors for the formation of black soil.
- **Statement 1 is correct:** This type of soil is **typical of the Deccan trap (Basalt) region** spread over NorthWest Deccan plateau and is made up of lava flows.
- They cover the **plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh** and Chhattisgarh and extend in the South East direction along the Godavari and the Krishna valleys.
- The black soils are **made up of extremely fine i.e. clayey material.** They are well-known for their capacity to hold moisture.
- **Statement 2 is incorrect:** In addition, they are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime. These **soils are generally poor in phosphoric contents**.
- They develop deep cracks during hot weather, which helps in the **proper aeration of the soil**. These soils are sticky when wet and difficult to work on unless tilled immediately after the first shower or during the pre-monsoon period.

10TH NCERT

Page no: 08

48. Which one of the following statements is incorrect regarding the soils in India?

a) The laterite soil develops under tropical and subtropical climate with alternate wet and dry season

b) Forest soils are loamy and silty in the upper slopes and coarse grained in valley sides

c) The entire Northern plains are made of alluvial soil which have been deposited by three important Himalayan river systems - the Indus, the Ganga and the Brahmaputra

d) Red soil develops a reddish colour due to diffusion of iron in crystalline and metamorphic rocks

Ans: B

Explanation

- **Option A is correct:** The laterite soil **develops under tropical and subtropical climate** with alternate wet and dry seasons. This soil is the **result of intense leaching** due to heavy rain. Lateritic soils are mostly deep to very deep, acidic (pH<6.0), generally **deficient in plant nutrients**
- **Option B is incorrect:** Forest soils are found in the **hilly and mountainous areas** where sufficient rain forests are available. The soil texture varies according to the mountain environment where they are formed. They are **loamy and silty in valley sides and coarse grained in the upper slopes**.
- **Option C is correct:** Alluvial Soils is the **most widely spread** and important soil. In fact, the **entire Northern plains are made of alluvial soil.** These have been deposited by **three important Himalayan river systems**– the Indus, the Ganga and the Brahmaputra. These soils also extend in Rajasthan and Gujarat through a narrow corridor.
- **Option D is correct:** Red soil develops on **crystalline igneous rocks** in areas of low rainfall in the Eastern and Southern parts of the Deccan plateau. This soil develops a reddish colour due to **diffusion of iron in crystalline and metamorphic rocks.** It looks yellow when it occurs in a hydrated form.

10TH NCERT

Page no: 08 and 10.

49. Which one of the following factors is responsible for the largest degraded land area in India?

a) Glacial erosion

b) Water erosion

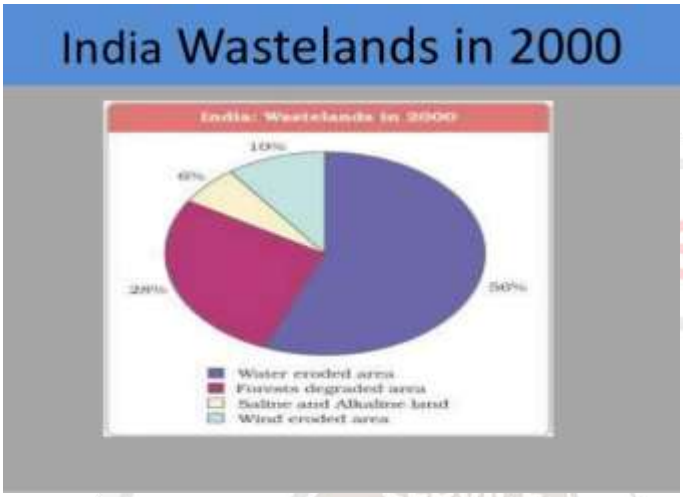
c) Salinity and alkalinity

d) Wind erosion

Ans: B

Explanation

In India, **nearly 130 million hectares of land is being degraded**.



- **Fifty-six (56) per cent of the land is degraded because of water**.
- Twenty-eight (28) per cent of the land is degraded because of **deforestation.**
- **Ten (10) per cent** of the land is degraded because of **wind erosion.**
- Six per cent of the land is degraded because of agriculture, modern form inputs and chemical waste.

10TH NCERT

Page no: 07

50. Consider the following pairs

Category of species		**Description**
1. Rare Species	-	These are species which are only found in some particular areas usually isolated by natural or geographical barriers
2. Extinct Species	-	These are species which are not found after searches of known or likely areas where they may occur
3. Vulnerable Species	-	These are species which are in danger of extinction.

Which of the above pairs is/are correctly matched?

a) 1 and 2 only

b) 2 only

c) 1 and 3 only

d) 2 and 3 only

Ans: B

Explanation

- **Rare Species:**Species with small **population may move into the endangered or vulnerable** category if the negative factors affecting them continue to operate. The examples of such species are the **Himalayan brown bear, wild Asiatic buffalo**, desert fox and hornbill, etc.
- **Extinct Species:** These are species which **are not found after searches of known or likely areas where they may occur**. A species may become extinct from a local area, region, country, continent or the entire earth. Examples of such species are the **Asiatic cheetah, pink head duck**.
- **Vulnerable Species***:*These are **species whose population has declined to levels** from where it is **likely to move into the endangered** category in the near future if the negative factors continue to operate. The examples of such species are **blue sheep, Asiatic elephant, Gangetic dolphin**, etc.
- **Endemic Species:** These are species which are **only found in some particular areas** usually isolated by natural or geographic barriers. Examples of such species Nicobar pigeon, Andaman wild pig, mithun in Arunachal Pradesh.
- **Endangered Species:** These are **species which are in danger of extinction**. The survival of such species is difficult if the negative factors that have led to a decline in their population continue to operate. The examples of such species are **black buck, crocodile, Indian wild ass, Indian rhino**, lion tailed macaque, sangai (brow anter deer in Manipur), etc.

10TH NCERT

Page no: 15

51. Consider the following statements with respect to the Himalayan yew

1. It is a medicinal plant endemic to the state of Himachal Pradesh only.

2. A chemical compound called ‘taxol’ which is extracted from this tree has been successfully used to treat some cancers

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: B

Explanation

- **Statement 1 is incorrect**: The Himalayan Yew (Taxuswallachiana) is a **medicinal plant found in various parts of Himachal Pradesh and Arunachal Pradesh (not endemic to Himachal Pradesh)**
- **Statement 2 is correct** : A chemical compound called **'taxol' is extracted** from the bark, needles, twigs and roots of this tree, and it has been **successfully used to treat some cancers – the drug is now the biggest selling anti-cancer drug** in the world.
- The species is under **great threat due to over-exploitation**. In the last one decade, thousands of **yew trees have dried up in various parts** of Himachal Pradesh and Arunachal Pradesh.

10TH NCERT

Page no: 17

52. Consider the following statements regarding the 'Unclassed forests' in India

1. These are forests and wastelands belonging specifically to the communities in the region

2. All North-Eastern states have a very high percentage of their forests as unclassed forests managed by local communities.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: B

Explanation

Types and Distribution of Forest and Wildlife Resources

In India, much of its forest and wildlife resources are **either owned or managed by the government** through the Forest Department or other government departments. These are classified under the following categories.

- **Reserved Forests:More than half of the total forest land** has been declared reserved forests. Reserved forests are **regarded as the most valuable** as far as the conservation of forest and wildlife resources are concerned
- **Protected Forests:** Almost **one-third of the total forest area** is protected forest, as declared by the Forest Department. This forest land is protected from any further depletion.
- **Statement 1 is incorrect:** Unclassed Forests **-** These are other forests and wastelands **belonging to both government and private individuals and communities. (not specifically to the communities)**
- **Madhya Pradesh** has the largest area under permanent forests, **constituting 75 per cent of its total forest area**.
- Jammu and Kashmir, Andhra Pradesh, Uttarakhand, Kerala, Tamil Nadu, West Bengal, and Maharashtra have large percentages of reserved forests of its total forest area
- **Statement 2 is correct:** All **North-Eastern states** and parts of Gujarat have a very high percentage of their forests as unclassed forests **managed by local communities**.

  10TH NCERT

  Page no: 20

53. Which among the following is/are well known ecological movements in India?

1. Chipko movement
2. Navdanya movement
3. Silent valley movement

Select the correct answer using the codes given below

a) 1 only

b) 1 and 3 only

c) 1 and 2 only

d) 1, 2 and 3

Ans: D

Explanation

- The **Chipko movement** or ChipkoAndolan was a **forest conservation movement**. It began in **1970s in Uttarakhand** and went on to become a rallying point for many future environmental movements all over the world.
- It created a **precedent for starting nonviolent protest in India** and its success meant that the world immediately took notice of this non-violent movement, which was to inspire in time many similar eco-groups by helping to **slow down the rapid deforestation**
- **Navdanya** is a **movement for Earth Democracy** based on the philosophy of 'VasudhaivKutumbakam' (The Earth as one Family). It protects the **India's biodiversity based food heritage**
- The objective is to **spread ecological awareness** and to learn how to **live in harmony with nature**
- Navdanya pioneered the **movement of seed saving**, which began in response to the crisis of agricultural biodiversity. Having realized that conservation of agricultural biodiversity is impossible without **the participation of the communities** who have evolved and protected the plants and animals that form the basis of sustainable agriculture.
- **Silent Valley movement** was aimed at the protection of Silent Valley, **an evergreen tropical forest in the Palakkad district of Kerala**, India. It was started in **1973 by an NGO** led by school teachers and the Kerala SastraSahithyaParishad (KSSP) to **save the Silent Valley from being flooded by a hydroelectric project**. The valley was declared as Silent Valley National Park in 1985.

10TH NCERT

Page no: 21

54. Consider the following statements regarding the Rabi crops

1. These crops are sown in summer and harvested in winter

2. Availability of precipitation during winter months due to the Western temperate cyclones helps in the success of these crops.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: B

Explanation

- **Statement 1 is incorrect:** Rabi crops are **sown in winter** from October to December and **harvested in summer** from April to June.
- Some of the important rabi crops are **wheat, barley, peas, gram and mustard**.
- Though, these crops are grown in large parts of India, **states from the North and North-Western** parts such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh are **important for the production of wheat** and other rabi crops.
- **Statement 2 is correct:** Availability of **precipitation during winter months due to the Western temperate cyclones** helps in the success of these crops.
- However, the success of the green revolution in Punjab, Haryana, Western Uttar Pradesh and parts of Rajasthan has also been an important factor in the growth of the above mentioned rabi crops.

10TH NCERT

Page no: 36

55. Consider the following statements with respect to wheat cultivation

1. It requires a cool growing season and bright sunshine at the time of ripening

2. Wheat is also grown in the black soil region of the deccan.

3. Aus, Aman and Boro are the three important varieties of wheat grown in India

Which of the statements given above is/are correct?

a) 1 and 3 only

b) 1 and 2 only

c) 3 only

d) 2 and 3 only

Ans: B

Explanation

- Wheat is the second most important cereal crop after rice.It is the **main food crop in North and North-Western part** of the country.
- **Statement 1 is correct:** This rabi crop requires a **cool growing season and bright sunshine** at the time of ripening.
- It requires **50 to 75 cm of annual rainfall** evenly distributed over the growing season.
- **Statement 2 is correct:** There are two **important wheat-growing zones** in the country – the Ganga-Satluj plains in the North-West and **black soil region of the Deccan**.
- The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, Bihar and Rajasthan.
- **Statement 3 is incorrect:** Recently, paddy has also become an important crop of Punjab and Haryana. In states like Assam, West Bengal and Odisha, **three crops of paddy are grown in a year** namely**Aus, Aman and Boro (these are not varieties of wheat)**

10TH NCERT

Page no: 38

56. It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas. It requires moist and humid climate with rainfall of more than 200 cm and temperature above 25°C. It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya.

The above description refers to which among the following crops?

a) Sugarcane

b) Rubber

c) Tea

d) Rice

Ans: B

Explanation

<u>RUBBER</u>

- It is an **equatorial crop**, but under special conditions, it is also grown in tropical and sub-tropical areas.

- It requires **moist and humid climate** with **rainfall of more than 200 cm** and temperature above 25°C. The rainfall should be well distributed throughout the year.
- Rubber is an important **industrial raw material**It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar Islands and Garo hills of Meghalaya.
- **Rubber tree (Heveabrasiliensis)** is a quick growing tall tree acquiring 20-30 metre height. It begins to **yield latex in 5-7 years after planting**.
- **Dry spell and low temperatures are harmful**. Deep **well drained loamy soils** on the hill slopes at elevations ranging from 300 to 450 metres above sea level provide the best conditions for its growth.
- **Top Rubber Producing States:** Kerala > Tamil Nadu > Karnataka.

  10TH NCERT

  Page no: 42

57. Consider the following statements regarding the 'Placer deposits'

1. These are the minerals which occur as alluvial deposits in sands of valley floors and the base of hills
2. These deposits generally contain minerals, which are not corroded by water
3. Tin is one of the important minerals found in Placer deposits

Which of the statements given above is/are correct?

a) 1 only

b) 1 and 2 only

c) 1, 2 and 3

d) 2 only

Ans: C

Explanation

✓ Minerals generally occur in various forms

- In **igneous and metamorphic rocks** minerals may occur in the **cracks, crevices, faults or joints**. In most cases, they are formed when minerals in liquid/ molten and gaseous forms are **forced upward through cavities** towards the earth's surface.
- In **sedimentary rocks** a number of minerals occur in beds or layers. They have been formed as a result of **deposition, accumulation and concentration** in horizontal strata.

- Another group of sedimentary minerals include gypsum, potash salt and sodium salt. These are formed as a **result of evaporation** especially in arid regions.
- **Statement 1 and 2 are correct:** Certain minerals may **occur as alluvial deposits in sands of valley floors** and the base of the hills. These **deposits are called 'placer deposits'** and generally contain minerals, which **are not corroded by water**.
- **Statement 3 is correct:** The most important among such minerals are

Gold

Silver

Tin and

Platinum.

10TH NCERT

Page no: 52

58. Consider the following statements with respect to mineral reserves in India

1. The peninsular rocks contain most of the reserves of coal in India

2. Sedimentary rocks on the Western and Eastern flanks of the peninsula, in Gujarat and Assam have most of the petroleum deposits in India

3. The vast alluvial plains of North India contains a huge reserves of economic minerals

Which of the statements given above is/are INCORRECT?

a) 1 and 2 only

b) 3 only

c) 2 and 3 only

d) None of the above

Ans: B

Explanation

- India is fortunate to have **fairly rich and varied mineral resources**. However, these are unevenly distributed.
- **Statement 1 is correct:** Broadly speaking, **peninsular rocks contain most of the reserves of coal**, metallic minerals, mica and many other non-metallic minerals.

- **Statement 2 is correct:** Sedimentary rocks on the **Western and Eastern flanks** of the peninsula, in Gujarat and Assam have **most of the petroleum deposits**.
- Rajasthan with the rock systems of the peninsula, has reserves of many non-ferrous minerals.
- **Statement 3 is incorrect**: The vast **alluvial plains** of North India are **almost devoid of economic minerals.** These variations exist largely because of the differences in the geological structure, processes and time involved in the formation of minerals.

  10TH NCERT

  Page no: 52

59. Consider the following pairs

Mines	Minerals
1. Kudremukh	A. Copper
2. Khetri	B. Bauxite
3. Sundergarh	C. Iron
4. Bilaspur	D. Manganese

Select the correct answer using the codes given below

	1	2	3	4
a)	B	C	A	D
b)	C	A	B	D
c)	B	D	A	C
d)	C	A	D	B

Ans: D

Explanation

- **Ballari-Chitradurga-Chikkamagaluru-Tumakuru belt** in Karnataka has large reserves of iron ore. The **Kudremukh mines** located in the Western Ghats of Karnataka are a 100 percent export unit. Kudremukh deposits are known to be **one of the largest in the world**. The ore is transported as slurry through a pipeline to a port near Mangaluru.

- Being malleable, ductile and a good conductor, **copper is mainly used in electrical cables**, electronics and chemical industries. The Balaghat mines in Madhya Pradesh, **Khetri mines in Rajasthan** and Singhbhum district of Jharkhand are **leading producers of copper**.
- India's bauxite deposits are mainly found in the Amarkantak plateau, Maikal hills and the **plateau region of Bilaspur-Katni**
- **Sundergarh mines** in the state of Odisha is one important reserves for manganese deposits

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Page no: 54

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60. Consider the following statements regarding the Bauxite deposits

1. Aluminium can be found only in the bauxite ore

2. Bauxite deposits are formed by the decomposition of surface rocks and the removal of soluble constituents leaving a residual mass of weathered material containing ores

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: B

Explanation

- **Statement 1 is incorrect:** Though**, several ores contain aluminium**, it is from bauxite, **a clay-like substance that alumina** and later aluminium is obtained.
- Bauxite deposits are **formed by the decomposition of a wide variety of rocks** rich in aluminium silicates. Aluminium is an important metal because it combines the strength of metals such as iron, with **extreme lightness** and also with good conductivity and great malleability.
- India's bauxite deposits are mainly found in the **Amarkantak plateau, Maikal hills** and the plateau region of Bilaspur-Katni.

  Minerals generally occur in various forms
- In **igneous and metamorphic rocks** minerals may occur in the **cracks, crevices, faults or joints**. In most cases, they are formed when minerals in liquid/ molten and gaseous forms are **forced upward through cavities** towards the earth's surface.
- In **sedimentary rocks** a number of minerals occur in beds or layers. They have been formed as a result of **deposition, accumulation and concentration** in horizontal strata.
- **Statement 2 is correct:** Another mode of formation involves the **decomposition of surface rocks** and the removal of soluble constituents, leaving a **residual mass of weathered material** containing ores. **Bauxite is formed in this manner**.

  10TH NCERT

  Page no: 51 and 55

61. Which of the following is/are devices used in Industries to control air pollution?

1. Electrostatic precipitators (ESP)
2. Fabric filters
3. Scrubbers
4. Inertial separators

Select the correct answer using the codes given below

a) 1 and 4 only

b) 1, 2 and 4 only

c) 2 and 3 only

d) 1, 2, 3 and 4

Ans: D

Explanation

- Particulate matter in the air can be **reduced by fitting smoke stacks** to factories with **electrostatic precipitators**, **fabric filters, scrubbers and inertial separators**. Smoke can be reduced by using oil or gas instead of coal in factories
- **Scrubber** systems (e.g. chemical scrubbers, gas scrubbers) are a diverse group **of air pollution control devices** that can be used to **remove some particulates** and/or gases from industrial exhaust streams
- **Fabric filter** is an air **pollution control device** and dust collector that removes particulates or gas released from commercial processes out of the air. **Power plants, steel mills, pharmaceutical producers,** food manufacturers, chemical producers and other industrial companies often use this device to **control emissions** of air pollutants
- **Electrostatic Precipitator** can be defined as a type of air cleaner or filter that **utilizes electric energy for removing the impurities, dust particles from the air**. This is a commonly used device for controlling air pollution.
- Inertial separators **separate dust from gas streams** using a combination of forces, such as **centrifugal, gravitational, and inertial**. They are often used as an air pollution control device to maintain or improve air quality.

10TH NCERT

Page no: 78

62. Arrange the various forms of coal in the increasing order of the carbon content they possess

1. Lignite
2. Anthracite
3. Peat
4. Bituminous

Select the correct answer using the codes given below

a) 2-4-1-3

b) 3-4-1-2

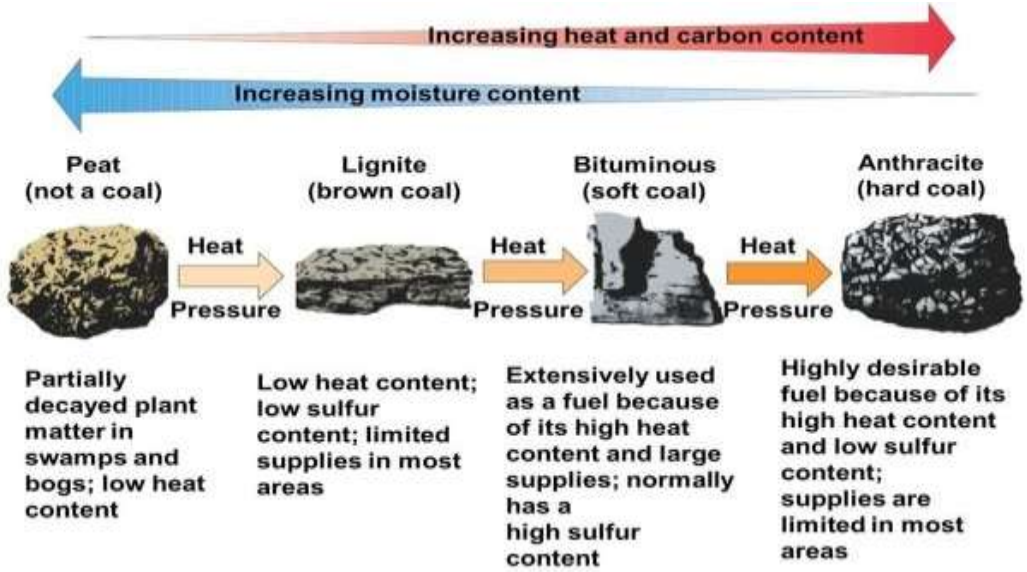
c) 3-1-4-2

d) 2-3-1-4

Ans: C

Explanation

- Coal is formed due to the **compression of plant material over millions of years**. Coal, therefore is found in a **variety of forms** depending on the **degrees of compression and the depth** and time of burial.
- **Decaying plants** in swamps **produce peat.**Which has a **low carbon and high moisture contents** and low heating capacity.
- Lignite is a **low grade brown coal**, which is soft with high moisture content. The principal lignite **reserves are in Neyveli** in Tamil Nadu and are used for generation of electricity.
- Coal that has been buried deep and **subjected to increased temperatures is bituminous coal**. It is the most popular coal in commercial use. Metallurgical coal is high grade bituminous coal which has a special value for smelting iron in blast furnaces. **Anthracite is the highest quality hard coal.**
- In the process of transformation **(coalification),** peat is altered to lignite, lignite is altered to sub-bituminous, sub-bituminous coal is altered to bituminous coal, and bituminous coal is altered to anthracite.



10TH NCERT

Page no: 58

63. Consider the following statements regarding Natural gas reserves

1. Natural gas reserves are always found in association with the petroleum reserves

2. Andaman and Nicobar islands have large reserves of natural gas.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: B

Explanation

- **Statement 1 is incorrect**: Natural gas is an important clean energy resource **found in association with or without petroleum** (not necessarily in association with petroleum) It is used as a source of energy as well as an industrial raw material in the petrochemical industry.

- Natural gas is considered as an environmentally friendly fuel because of **low carbon dioxide emissions** and is therefore, the fuel for the present century.
- **Large reserves** of natural gas have been discovered in the **Krishna-Godavari** basin. Along the West coast the reserves of the **Mumbai High** and allied fields are supplemented by finds in the Gulf of Cambay.
- **Statement 2 is correct**: **Andaman and Nicobar islands are also important areas** having large reserves of natural gas.
- The 1700 km long **Hazira-Vijaipur-Jagdishpur cross country gas pipeline** links Mumbai High and Bassein with the fertilizer, power and industrial complexes in Western and Northern India.
- This artery has provided an **impetus to India's gas production**. The power and fertilizer industries are the key users of natural gas.

  10TH NCERT

  Page no: 60

64. Consider the following statements regarding the Iron ore

1. Hematite ore is the finest iron ore with a very high content of iron
2. Jharkhand is the largest producer of iron ore in India

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: D

Explanation

- Iron ore is the basic mineral and the backbone of industrial development. India is endowed with fairly abundant resources of iron ore. India is **rich in good quality iron ores**.
- **Statement 1 is incorrect**: **Magnetite (not hematite)is the finest iron ore** with a very high content of iron up to 70 per cent. It has excellent **magnetic qualities**, especially valuable in the electrical industry.
- Hematite ore is the most important industrial iron ore in terms of the quantity used, but has a **slightly lower iron content than magnetite** (50-60 per cent).

- **Statement 2 is incorrect: Odisha (not Jharkhand)** is the largest producer of iron ore in India. It contributes 52% of total production.

  The major iron ore belts in India are
- Odisha-Jharkhand belt
- Durg-Bastar-Chandrapur
- Ballari-Chitradurga-Chikkamagaluru-Tumakuru belt
- Maharashtra-Goa belt

  10TH NCERT

  Page no: 52

65. Consider the following statements regarding the thermal pollution

1. It occurs when hot water from factories and thermal power plants is drained into rivers and ponds before cooling

2. Thermal pollution increases the levels of DO (Dissolved Oxygen) in water

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Ans: A

Explanation

- **Statement 1 is correct**: Thermal pollutionof water occurs when **hot water from factories and thermal plants is drained into rivers and ponds** before cooling
- Production and Manufacturing plants are the biggest **source** of thermal pollution. These plants draw water from nearby source to keep machines cool and **then release back to the source with higher temperature.**
- When heated water returns to the river or ocean, the **water temperature rises sharply**. When oxygen levels are altered in the water, this can also **degrade the quality and longevity of aquatic life.** This process can also **wipe away streamside vegetation**, which constantly depends on constant levels of oxygen and temperature.

- **Statement 2 is incorrect: Decrease in DO (Dissolved Oxygen) Levels -** The warm temperature reduces the levels of DO (Dissolved Oxygen) in water. The **warm water holds relatively less oxygen than cold water**. The decrease in DO can create suffocation for plants and animals such as fish, amphibians etc thereby threatening aquatic ecosystem

  10TH NCERT

  Page no: 78

66. Which of the following is/are measures to control Land degradation?

1. Shelterbelts
2. Control on overgrazing
3. Stabilisation of sand dunes
4. Proper disposal of industrial effluents

Select the correct answer using the codes given below

a) 1 and 2 only

b) 1, 2 and 3 only

c) 1, 2 and 4 only

d) 1, 2, 3 and 4

Ans: D

Explanation

Land degradation in simple terms refer to the decline in the land quality. It includes soil erosion, reduction in fertility of soil, extreme pH values, poor soil texture, increase in soil pollutants etc., There are many ways to solve the problems of land degradation.

- **Afforestation** and proper management of grazing can help to some extent.
- Planting of **shelterbelts** of plants

 Shelter belt is a **planting usually made up of one or more rows of trees** or shrubs planted in such a manner as to provide shelter from the wind and to protect soil from erosion.

- **Control on overgrazing**
- **Stabilisation of sand dunes** by growing thorny bushes are some of the methods to check land degradation in arid areas

- Sand dunes are **common features of shoreline and desert environments**. Dunes provide habitat for highly specialized plants and animals, including rare and endangered species. They can **protect beaches from erosion**
- Stabilizing dunes involves multiple actions. **Planting vegetation** reduces the impact of wind and water. **Wooden sand fences can help retain sand** and other material needed for a healthy sand dune ecosystem.
- Proper management of waste lands
- **Control of mining activities**
- Proper **discharge** and **disposal of industrial effluents** and wastes after treatment can reduce land and water degradation in industrial and suburban areas.

10TH NCERT

Page no: 07

67. The term 'Blood-less Revolution' is associated with which of the following?

a) Sacred groves

b) Organic farming

c) Man animal conflict

d) Land reforms

Ans: D

Explanation

- The Bhoodan Gramdan Movement was a **voluntary land reform movement** in India that was started by AcharyaVinoba Bhave.
- AcharyaVinobaBhave was one of the votaries of Gandhi's **concept of gram swarajya**. After Gandhi's martyrdom, VinobaBhave undertook padyatra to spread Gandhiji's message covering almost the entire country.
- Once, when he was delivering a lecture at Pochampally in Andhra Pradesh, some poor landless villagers demanded some land for their economic well-being. VinobaBhave could not promise it to them immediately but assured them to talk to the Government of India regarding provision of land for them if they **undertook cooperative farming**.

- Suddenly, Shri Ram Chandra Reddy stood up and offered 80 acres of land to be distributed among 80 land-less villagers. **This act was known as 'Bhoodan'**.
- Later he travelled and introduced his ideas widely all over India. Some zamindars, owners of many villages **offered to distribute some villages among the landless**. It was known as**Gramdan.**
- However, many land-owners chose to provide some part of their land to the poor farmers due to the fear of land ceiling act. Since this movement provided for voluntary land reform initiative, it is **also known as the Bloodless Revolution.**

  10TH NCERT

  Page no: 43

68. Which among the following is/are major ports in India, situated in the East coast (along the Bay of Bengal)?

1. Haldia
2. Paradip
3. Marmagao
4. Kandla

Select the correct answer using the codes given below

a) 1 and 2 only

b) 2 and 3 only

c) 2 and 4 only

d) 1 and 4 only

Ans: A

Explanation

- Haldia and Paradipis situated in the **state of West Bengal and Odisha** respectively. These are located in the **Eastern coast along the Bay of Bengal**
- **Marmagao and Kandla** are ports situated in the **state of Goa and Gujarat** respectively. These are located in Western coast **along the Arabian Sea**.

10TH NCERT

Page no: 89

69. Which among the following crops require high temperature, light rainfall or irrigation, 210 frost-free days and bright sun-shine for its growth?

a) Coffee

b) Sugarcane

c) Maize

Plot No: 935,6th Avenue, Anna Nagar, Chennai-40
Ph: 044-40483555,9677120226,9677174226
Web: www.officersiasacademy.com

d) Cotton

Ans: D

Explanation

COTTON

- India is believed to be the **original home of the cotton plant**.
- Cotton is one of the **main raw materials** for **cotton textile industry**. In 2015, India was the second **largest producer of cotton** after China.
- Cotton grows **well in drier parts of the black cotton soil** of the Deccan plateau.
- It requires **high temperature, light rainfall or irrigation, 210 frost-free days and bright sun-shine for its growth**.
- It is a **kharif crop** and requires 6 to 8 months to mature.
- **Major cotton-producing states** are - **Maharashtra**, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Telangana, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.

10TH NCERT

Page no: 42

70. For which among the following states in India, the Net sown area as a percentage of total area of the state is highest?

a) Mizoram

b) Punjab

c) Arunachal Pradesh

d) Kerala

Ans: B

Explanation

NET SOWN AREA

- It refers to total **area sown with crops once a year.** The **pattern of net sown area varies greatly** from one state to another.

- It is **over 80 per cent of the total area in Punjab** and Haryana and **less than 10 per cent in Arunachal Pradesh, Mizoram, Manipur and Andaman Nicobar Islands**
- **Net sown area of Kerala:** Out of a total geographical area of 38.86 lakh hectare, **net sown area is about 53 percent** for the state of kerala

Gross Cropped Area

- Gross Cropped Area (GCA) is the **total area sown once as well as more than once** in a particular year. The GCA is inclusive of the Net sown area.
- ➢ This implies that **if we deduct net sown area from gross cropped area**; what we find is those areas **where crops are cultivated for more than once** in a particular agriculture year.

71. These soils range from red to brown in colour. They are generally sandy in texture and saline in nature. In some areas the salt content is very high and common salt is obtained by evaporating the water. Due to the dry climate and high temperature, evaporation is faster and the soil lacks humus and moisture. The lower horizons of the soil are occupied by Kankar because of the increasing calcium content downwards. The Kankar layer formations in the bottom horizons restrict the infiltration of water. After proper irrigation these soils become cultivable.

The above description refers to which of the following soil?

a) Red Soil

b) Laterite Soil

c) Arid Soil

d) Forest Soil

Ans: C

Explanation

Arid Soil

- These soils range from **red to brown in colour**.
- They are generally **sandy in texture and saline in nature**. In some areas the salt content is very high and **common salt is obtained by evaporating** the water.

- Due to the **dry climate, high temperature, evaporation is faster** and the soil lacks humus and moisture. The lower horizons of the soil are **occupied by Kankar** because of the increasing calcium content downwards.
- The Kankar layer formations in the **bottom horizons restrict the infiltration of water**. After proper irrigation these soils become cultivable

10TH NCERT

Page no: 10

72. Which of the following statements best describes 'Agglomeration economies'?

a) It is a system of collective farming in which small and marginal farmers agree to pool their land to improve productivity

b) It is the practice of engaging the private sector in public enterprises to improve the economies of scale

c) It is the tendency of forming Industrial clusters in order to make use of the advantages offered by the urban centres

d) None of the above

Ans: C

Explanation

- Industrial locations are complex in nature. These are influenced by the availability of raw materials, labour, capital, power and market, etc. It is **rarely possible to find all these factors available at one place.**
- Consequently, manufacturing activity tends to locate at the most appropriate place where all the factors of industrial location are either available or can be arranged at a lower cost.
- After an **industrial activity starts, urbanisation follows**. Sometimes, industries are located in or near the cities. Thus, **industrialisation and urbanisation go hand in hand**.
- Cities provide markets and also provide services such as banking, insurance, transport, labour, consultants and financial advice, etc. to the industry.
- Many industries tend to come together to **make use of the advantages offered by the urban centres** known as **agglomeration economies.**
- **Option A is incorrect:** It is related to **cooperative farming**

- **Cooperative farming** refers to an organisation in which each **member-farmer remains the owner** of his land individually. But **farming is done jointly**. Profit is distributed among the member-farmers in the ratio of land owned by them
- **Option B is incorrect:** It is related to **Public Private Partnership (PPP).**
- A public–private partnership is a **cooperative arrangement** between two or more public and private sectors, typically of a long-term nature. It involves an **arrangement between a unit of government and a business** that brings better service delivery.

  10th NCERT

  Page no:66

73. With reference to Markandeshwar temple consider the following statements:

1) The temple belongs to the Vesara group of temples.
2) It belongs to Saiva, Vaishnava and Sakta faith.
3) It is known as the "Khajuraho of Vidarbha."

Which of the following statements given above is/are correct?

a) 1 only
b) 1 and 2
c) 3 Only
d) 2 and 3

Solution: D

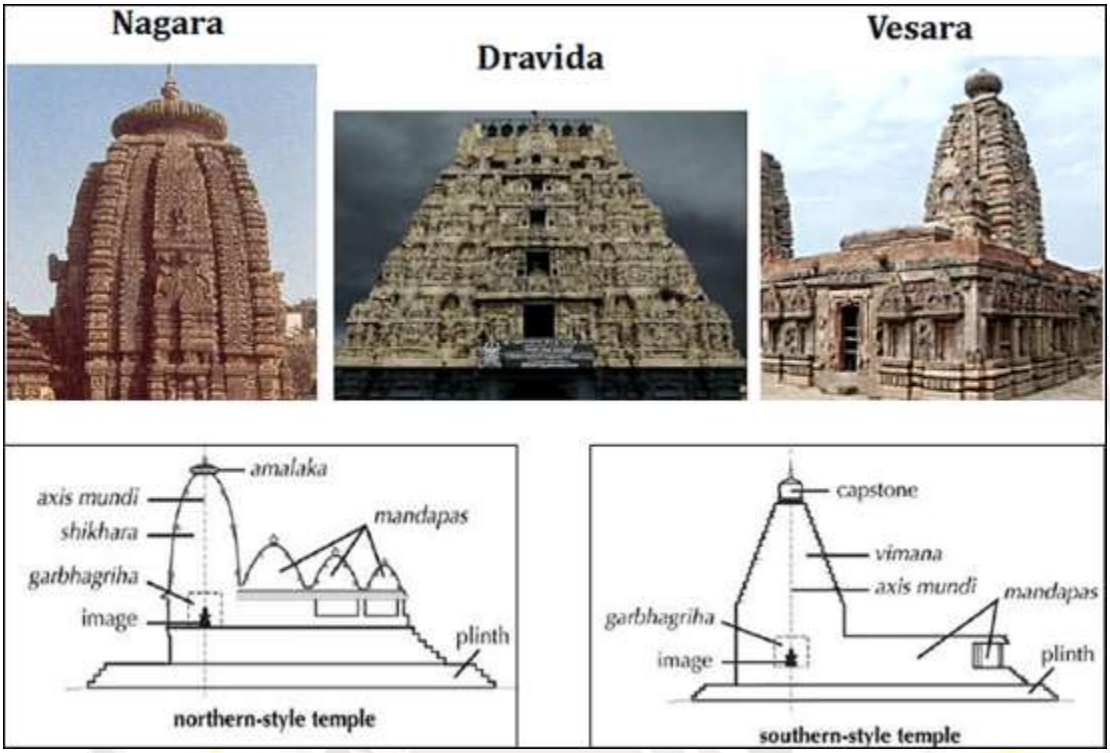
Explanation:

Markandeshwartemple is situated on the bank of **River Wainganga** in district Gadchiroli of Maharashtra. The temples belong to the Nagara group of temples of North India. Hence **Statement 1 is Incorrect.** The temples belong to saiva, vaishnava and sakta faith. **Statement 2 is Correct.** The temple of Markandeshwar is known as the "Khajuraho of Vidarbha". **Statement 3 is Correct**

About Nagara Style of Architecture:

- Nagara is the style of temple architecture which became popular in Northern India.
- It is common here to build an entire temple on a stone platform with steps leading up to it.
- Unlike in South India, it doesn't usually have elaborate boundary walls or gateways.

- Earliest temples had only one shikhara (tower), but in the later periods, multiple shikharas came.
- The garbhagriha is always located directly under the tallest tower



Why this question?

- Restoration work of Markandeshwar temple in Maharashtra by Archaeological Survey of India is in full swing. The Archaeological Survey of India is an Indian government agency attached to the Ministry of Culture.
- On stylistic grounds, their date ranges in between 9-12th centuries CE. Most of the temples have a simple plan, with ardhamandapa, mandapa, antarala and garbhagriha forming the component of the entire set up.

Source:

https://pib.gov.in/newsite/PrintRelease.aspx?relid=191808

74. .Consider the following statements about bioremediation

1) Bioremediation is the use of living microorganisms to degrade the environmental contaminants into less toxic forms.

2) These microbes are effective in increasing Biological Oxygen Demand of the polluted water.

Which of the statements given above is / are correct?

(a) 1 only

(b) 2 only

(c)Both 1 and 2

(d)Neither 1 nor 2

Answer: A

Explanation:

● Bioremediation is the use **of livingmicro organisms to degrade the environmental contaminants** into less toxic forms. Hence **Statement 1 is correct.**

● It uses naturally occurring bacteria and fungi or plants to degrade or detoxify substances hazardous to human health and/or the environment.

● Themicro organisms may be indigenous to a contaminated area or they may be isolated from elsewhere and brought to the contaminated site.

● Bioremediation can be effective only where environmental conditions permit microbial growth and activity.

● The application often involves the manipulation of environmental parameters to allow microbial growth and degradation to proceed at a faster rate.

Biological Oxygen demand:

Biological Oxygen Demand, is a **measurement of the amount of dissolved oxygen (DO)** that is used by aerobic microorganisms when decomposing organic matter in water.

The more organic matter there is (e.g., in sewage and polluted bodies of water), the greater the BOD; and the greater the BOD, the lower the amount of dissolved oxygen available for higher animals such as fishes. So **by means of bioremediation the pollution level in water is reduced which means that biological oxygen demand will reduce and not increase**. Hence, **Statement 2 is incorrect**. https://www.cseindia.org/bioremediation-technology-3792

75. A foreigner is considered to be an illegal immigrant under which of the following circumstances?

1) If they come into India without valid travel documents.

2) If they came legally and stayed beyond the time period permitted to them under their travel documents.

Select the correct answer using the code below.

a) 1 only

b) 2 Only

c) 1 and 2 Only

d) Neither 1 nor 2

Solution: C

Both the Statements are Correct

A foreigner is considered to be an illegal immigrant under two circumstances. One, if they come into India **without valid travel documents**, or two, having come in legally, they **stay beyond the time period permitted to them under their travel documents.** Illegal migrants may be imprisoned or deported.

About Rohingyas:

- Rohingya are an ethnic group, largely comprising Muslims, who predominantly live in the **Western Myanmar province of Rakhine.** They speak a **dialect of Bengali**, as opposed to the commonly spoken Burmese language.
- Though they have been living in the country for generations, Myanmar considers them as persons who migrated to their land during the Colonial rule. So, it has not granted Rohingyas full citizenship.
- Since they are not citizens, their movements are restricted within the Rakhine state.
- According to the Ministry of Home Affairs, there are approximately 40,000 Rohingyas living in India. They have reached India from Bangladesh through the land route over the years.

Why this Question:

The government had previously informed that all the Rohingyas in India were "illegal immigrants" and they will be deported soon.

Source:

https://www.thehindu.com/news/National/on-rohingyas-centre-asks-sc-to-decide-if-illegal-immigrants-can-be-given-refugee-status/article28328569.ece

76. Consider the following pairs.

Conventions	Related to
1. Stockholm Convention	Hazardous chemicals and Pesticides
2. Bonn Convention	Migratory Species
3. Vienna Convention	Consular Relations

Which of the pairs given above is/are INCORRECTLY matched?

a) 1 only

b) 2 and 3

c) 3 only

d) 1 and 3

Solution: A

Explanation:

Statement 1 is Incorrect

Stockholm Convention on Persistent Organic Pollutants is an interNational environmental treaty, signed in 2001 and effective from May 2004, that aims to **eliminate or restrict the production and use of persistent organic pollutants (POPs**).

Statement 2 is Correct

Bonn Convention or Convention on the Conservation of migratory species of Wild animals aims to conserve terrestrial, marine and avian migratory species throughout their range.

Statement 3 is Correct

The **Vienna Conventionon Consular Relations of 1963** is an interNational treaty that defines a framework for consular relations between independent states.

A consul performs two functions: protecting in the host country the interests of their countrymen, and furthering the relations between the two states.

Source:

https://economictimes.indiatimes.com/news/defence/pakistan-violated-its-obligations-under-vienna-convention-in-jadhavs-case-icj-president-tells-unga/articleshow/71833789.cms?from=mdr

77. What is ENDS that is often mentioned in news?

(a) NASA's Event horizon programme

(b) E-cigarettes

(c) Revised TB control programme

(d) Malaria elimination initiative

Answer: b

EXPLANATION

- **Electronic nicotine delivery systems (ENDS)** or non-combustible tobacco products are known by many names — vapes, e-hookahs, electronic cigarettes and e-pipes.
- E-cigarettes may be manufactured to look like traditional cigarettes and are marketed as tobacco-free nicotine delivery devices. Instead of burning tobacco leaves like in traditional cigarettes, an e-cigarette, which is a battery-operated device, produces aerosol by heating a solution containing nicotine among other things.
- The device contains nicotine and flavours in the form of liquid which is primarily composed of solvents such as glycerol and/or propylene glycol.
- The aerosol containing a suspension of fine particles and gases simulates cigarette smoke. Following a puff, the aerosol is delivered to the user's mouth and lungs and the rest is exhaled.

Why in news? The government has proposed to **ban e-cigarettes** and other electronic nicotine delivery systems (ENDS) which were also recommended by Indian Council of Medical Research (ICMR), which called for a "complete prohibition on ENDS and e-cigarettes in India in the greater interest of protecting public health, in accordance with the precautionary principle preventing public harm from a noxious agent Many countries such as **Brazil, Singapore, the Seychelles, Uruguay, and India** have banned e-cigarettes.

https://www.who.int/tobacco/communications/statements/eletronic_cigarettes/en/

https://www.thehindu.com/news/why-has-india-banned-e-cigarettes/article29478965.ece

78. Consider the following statements regarding Over the counter drugs (OTC)

(1) OTC drugs are medicines sold directly to a consumer with a prescription from a healthcare professional.

(2) OTC drugs are one of the reasons for antibiotic resistance among people

Which of the above statements is/are **INCORRECT**?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer : A

EXPLANATION

- **Ranitidine** is an H2 (histamine-2) blocker, which decreases the amount of acid created by the stomach. It is also prescribed for ulcers of stomach and intestines, gastroesophageal reflux disease etc.
- The drug ranitidine is approved for multiple indications in the country and available in various formulations including tablets, injections, etc. The drug is a prescription drug included in **Schedule-H** and therefore it should be sold by retail only under prescription of Registered Medical Practitioner.
- Indian doctors have advised patients to avoid **over-the-counter (OTC**) use of popular antacid ranitidine, following concerns over its contamination by cancer-causing substances

  Statement 1 is incorrect: Over-the-counter (OTC) drugs are medicines sold directly to a consumer **without** a prescription from a healthcare professional, as opposed to prescription drugs, which may be sold only to consumers possessing a valid prescription

  Statement 2 is correct: A 2015 survey conducted by Lybrate among 20,000 people across 10 cities showed that 52% of people practised **self medication** which is the most important reason behind Antimicrobial Resistance (AMR).

  Why in news? Indian doctors have advised patients here to avoid over-the-counter (OTC) use of popular **antacid ranitidine**, following concerns over its contamination by cancer-causing substances, with the Central Drugs Standard Control Organisation (CDSCO) now having started the process of checking for any adverse reactions of the drug

  https://www.fda.gov/drugs/questions-answers/generic-drugs-questions-answers

  https://www.thehindu.com/news/National/other-states/wide-access-to-otc-drugs-frees-up-govt-resources/article28693476.ece

79. National Data Quality Forum is

(a) A body established to promote data localisation

(b) Nongovernmental organisation of Telecom industries

(c) National-level platform that aims to improve the quality of health and demographic data

(d) A forum to negotiate data security measures with InterNational Telecommunication Union

Answer: c

EXPLANATION

- **The National Data Quality Forum (NDQF)** is an integrated National-level platform that aims to improve the quality of health and demographic data.
- NDQF will integrate learnings from scientific and evidence-based initiatives and guide actions through periodic workshops and conferences.
- Its activities will help establish protocols and good practices of data collection, storage, use and dissemination that can be applied to health and demographic data, as well as replicated across industries and sectors noted a release issued by ICMR.

Why in news?

The Indian Council of Medical Research (ICMR)'s National Institute for Medical Statistics (ICMR-NIMS), in partnership with Population Council, launched the National Data Quality Forum (NDQF)

https://www.icmr.nic.in/content/launch-National-data-quality-forum-ndqf

https://www.thehindu.com/news/National/icmr-launches-forum-to-improve-data-collection-and-use/article28701398.ece

80. The term PENCIL Portal recently seen in news refers to

(a) It is a separate online portal to ensure effective enforcement of the provisions of the Child Labour

(b) An initiative to promote free elementary education at grassroot level

(c) A subset of Sarva Shiksha Abhiyan Mission

(d) A portal to follow up educational loan

Answer: a

EXPLANATION

Why in news? Union Minister for Labour informed LokSabha that 361 Complaints of Child Labour have been resolved through Pencil Portal

The Platform for Effective Enforcement for No Child Labour (PENCIL) is an electronic platform that aims at involving Centre, State, District, Governments, civil society and the general public in **achieving the target of child labour free society**. It is a separate online portal to ensure effective enforcement of the provisions of the Child Labour Act and smooth implementation of the National Child Labour Project (NCLP) Scheme.The PENCIL Portal has various components, namely Child Tracking System, Complaint Corner, State Government, National Child Labour Project and Convergence.

The Government of India has brought various financing schemes for higher education, a significant one being the **Vidya Lakshmi portal**. Students can apply for an education loan to multiple financial institutions with one application on this portal. Bajaj Finserv brings this facility for students to help finance their higher education in the form of Vidyalakshmi Education Loan scheme.

SarvaShikshaAbhiyan, or SSA, is an Indian Government programme aimed at universalisation of elementary education "in a time bound manner", the 86th Amendment to the Constitution of India making free and compulsory education to children between the ages of 6 to 14 a fundamental right.

https://pencil.gov.in/

81. Consider the following statements with respect to FICN Coordination Group (FCORD)

(1) FCORD Group has been formed by the Ministry of Finance to counter the menace of circulation of Fake currency notes in the country.

(2) National Investigation Agency (NIA) has been empowered by NIA Act to investigate and prosecute offences relating to FICN

Which of the above statements is/are **INCORRECT**?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Answer: A

EXPLANATION

The Ministry of Home Affairs (MHA) has informed that to address the multi-dimensional aspects of the Fake Indian Currency Notes (FICN) menace, several agencies such as the RBI, Ministry of Finance, Ministry of Home Affairs, Security and Intelligence Agencies of the Centre and States, Central Bureau of Investigation (CBI) etc., are working in tandem to thwart the illegal activities related to FICNs.

Special FICN Coordination (FCORD) Group has been formed in the Ministry of Home Affairs **to share the intelligence/information amongst the different security agencies of State/Centre to counter the menace** of circulation of Fake currency notes in the country. National Investigation Agency (NIA) has been empowered by NIA Act to investigate and prosecute offences relating to FICN

Statement 1 is incorrect: FICN Coordination Group (FCORD) has been formed by the **Ministry of Home Affairs** to share intelligence/information among the security agencies of the states/centre to counter the problem of circulation of fake currency notes

Statement 2 is correct: A Terror Funding and Fake Currency (TFFC) Cell has been constituted in National Investigation Agency (NIA) to conduct focused investigation of terror funding and fake currency cases**.**

https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1579971

82. The term 'Nikshay' seen in news refers to

(a) Online Tool For Monitoring TB Control Programme

(b) An indigenously designed and developed artillery in India

(c) A Medium range surface to surface missile

(d) Project to develop Air Independent Propulsion system (AIP)

Answer: a

EXPLANATION

To keep a track of the TB patients across the country, the Government of India has introduced a system called NIKSHAY. The word is a combination of two Hindi words NI and KSHAY meaning eradication of tuberculosis. NIKSHAY has two broad objectives. One is to create a database of all TB patients including Multi-Drug Resistant cases across the country and to use this database for monitoring and research purposes at all levels so that TB can be eradicated from India in an effective manner.

Why in news? The Ministry of Health & Family Welfare (MOHFW) has launched the Direct Benefit Transfer (DBT) scheme for nutritional support to tuberculosis patients as NikshayPoshanYojana (NPY)

https://services.india.gov.in/service/detail/nikshay-health-establishment-registration-for-tb-notification

https://pib.gov.in/newsite/PrintRelease.aspx?relid=160655

83. Consider the following statements with respect to the International Court of Justice.

1) The Judgement of the court is binding on the parties.

2) The Court is composed of 15 judges, who are elected for a term of office of six years.

3) Till now no Indian Judge has been elected for the ICJ.

Which of the statements given above is/are correct?

a) 1 only

b) 2 and3 Only

c) 1 and 3 Only

d) 1, 2 and 3

Solution: A

Explanation:

InterNational Court of Justice:

- ICJ was established in 1945 by the United Nations charter and started working in April 1946.
- It is the principal judicial organ of the United Nations, situated at the Peace Palace in The Hague (Netherlands).
- Unlike the six principal organs of the United Nations, it is the only one not located in New York (USA).
- It settles legal disputes between States and gives advisory opinions in accordance with interNational law, on legal questions referred to it by authorized United Nations organs and specialized agencies.

Statement 1 is Correct

The judgment of the court is final, binding on the parties to a case and without appeal (at the most it may be subject to interpretation or, upon the discovery of a new fact, revision).

Statement 2 is Incorrect

The Court is composed of 15 judges, who are elected for terms of office of nine years by the United Nations General Assembly and the Security Council. These organs vote simultaneously but separately.

The 15 judges of the Court are distributed in following regions:

·Three from Africa.

·Two from Latin America and Caribbean.

·Three from Asia.

·Five from Western Europe and other states.

·Two from Eastern Europe.

Statement 3 is Incorrect

In the history of the InterNational Court of Justice (ICJ), four Indians have been permanent judges of the ICJ.

Indian Judges at the ICJ

1.SirBenegal Rau: 1952-1953

2.Nagendra Singh: 1973-1988

3.RaghunandanSwarupPathak: 1989-1991

4.JudgeDalveerBhandari: Member of the Court since 27 April 2012

Why this Question?

The InterNational Court of Justice ruled that Pakistan should review and reconsider former Indian naval officer KulbhushanJadhav's conviction and death sentence.

Source:

https://economictimes.indiatimes.com/news/defence/pakistan-violated-its-obligations-under-vienna-convention-in-jadhavs-case-icj-president-tells-unga/articleshow/71833789.cms?from=mdr

84. Arrange the following islands in sequence from South to North

(1) Maldives

(2) Reunion

(3) Seychelles

(4) Mauritius

Select the answer from the code given below

(a) 2-4-3-1

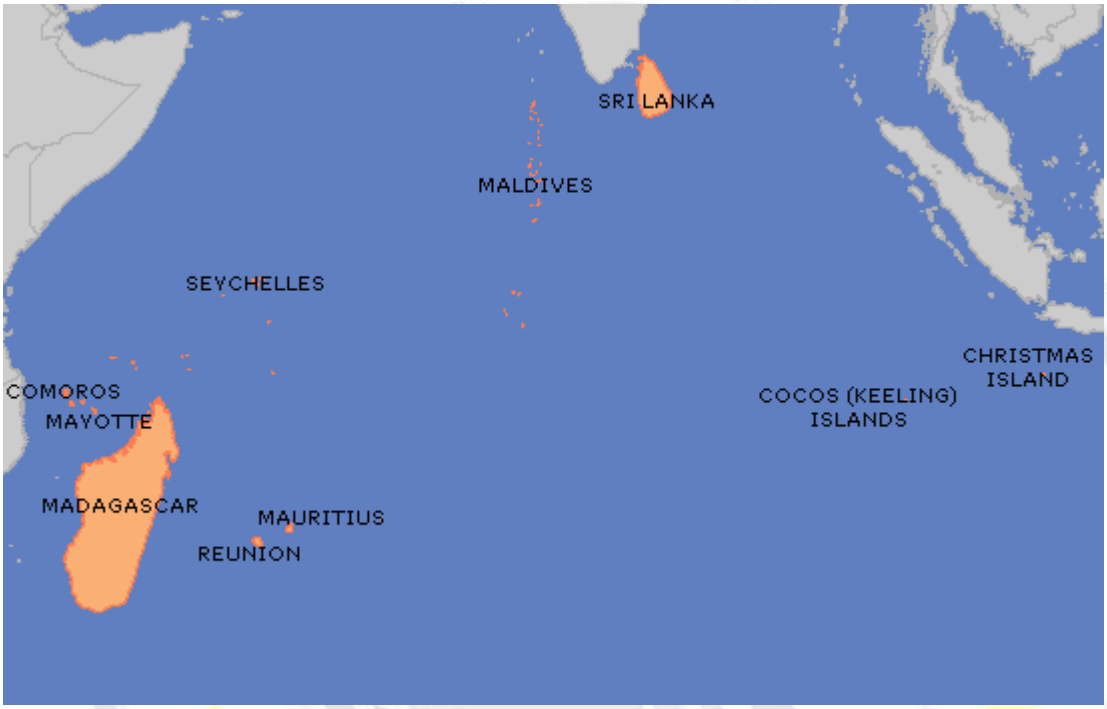
(b) 2-3-1-4

(c) 4-3-2-1

(d) 3-2-1-4

Answer : a

EXPLANATION



85. With reference to, Rashtriya Krishi Vikas Yojana- Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RKVY-RAFTAAR), consider the following.

1) Under the scheme, guidance, technology and infrastructure will be provided to youth and entrepreneurs for start-ups in different areas of agriculture.

2) The objective of this scheme is to make farming as a remunerative economic activity through strengthening the farmer's effort, risk mitigation and promoting agri-business entrepreneurship.

3) Recently, Agri-Business Incubation Centre was set up in Varanasi under this scheme.

Which of the above statements is/are correct?

a) 1 and 2 only

b) 2 Only

c) 3 Only

d) 2 and 3 Only

Solution: A

Explanation:

About RKVY-RAFTAAR:

- RashtriyaKrishiVikasYojana – Remunerative Approaches for Agriculture and Allied Sectors Rejuvination (RKVY-RAFTAAR) is a unique scheme of Ministry of Agriculture and Farmers' Welfare (MoA&FW).
- The objective of this scheme is to make farming as a remunerative economic activity through strengthening the farmer's effort, risk mitigation and promoting agri-business entrepreneurship. **Hence Statement 2 is Correct.**
- RKVY-RAFTAAR will continue to be implemented as a **Centrally Sponsored Scheme** in the ratio of 60: 40 (Government of India and State Share respectively) except in case of North Eastern and hilly states where the sharing pattern is 90:10. For UTs the grant is 100% as Central share..
- Under the scheme, guidance, technology and infrastructure will be provided to youth and entrepreneurs for start-ups in different areas of agriculture. **Hence Statement 1 is Correct.**
- An Agri Business Incubation Centre has started in Chhattisgarh. The centre has been set up by the Union Agriculture Ministry in Indira Gandhi Agriculture University of Raipur. **Hence Statement 3 is Incorrect.**

Source:

http://www.newsonair.com/News?title=Agri-Business-Incubation-Centre-started-in-Chhattisgarh&id=368448

https://pib.gov.in/newsite/printrelease.aspx?relid=173139

86. Which of the following statements about Gangetic river dolphin is/are correct?

1) Vikramshila Gangetic Dolphin Sanctuary (VGDS) in Bihar is India's only sanctuary for its National aquatic animal.

2) Gangetic river dolphins are found only in the Ganges River.

3) The Gangetic river dolphin can only live in freshwater.

Select the correct answer using the codes given below:

(a) 1 only

(b) 2 and 3 only

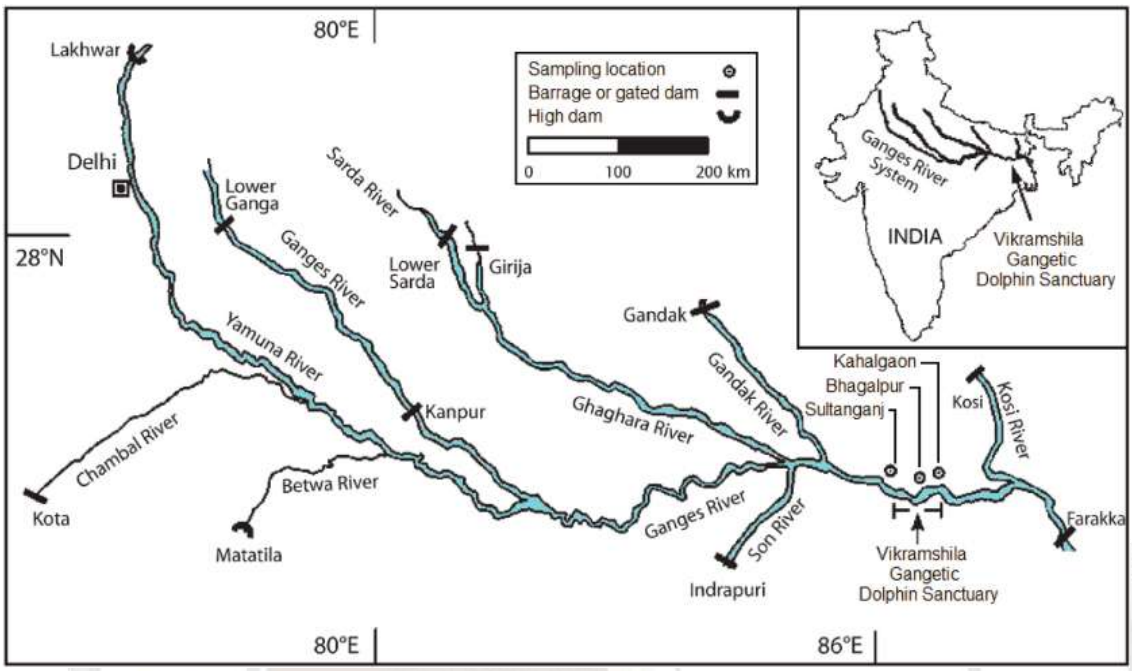
(c)1 and 3 only

(d) 1, 2 and 3

Answer: C

Explanation:

- VikramshilaGangetic Dolphin Sanctuary (VGDS) in Bihar's Bhagalpur district is India's only sanctuary for its National aquatic animal. Hence statement 1 is correct.
- The Gangetic River Dolphin Platanistagangetica is a mammal primarily found in the **Ganges and Brahmaputra Rivers** and their tributaries in India, Bangladesh and Nepal. Its not only found in Ganges. Hence **statement 2 is incorrect.**
- The gangetic river dolphin **can live only in freshwater** and is essentially blind.They hunt by emitting ultrasonic sounds which bounces off offish and other prey enabling them to see an image in their mind. Hence **Statement 3 is correct.**
- As an indicator of the health of the freshwater ecosystem, the Ganges River Dolphin has been recognized by the government of India as its National Aquatic Animal.



87. MoSAic MISSION, which was recently in the news related to?

a) An initiative to prevent the change in marble colour of Tajmahal due to pollution

b) An expedition into the central Arctic exploring the Arctic climate system.

c) An expedition to conduct scientific research in Antarctica.

d) An exploration mission to retrieve mineral deposits from the ocean

Answer: B

Explanation:

Option B is Correct: The Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) will be the first year-round expedition into the central Arctic exploring the Arctic climate system. The focus of MOSAiC lies on direct in-situ observations of the climate processes that couple the atmosphere, ocean, sea ice, biogeochemistry and ecosystem. It is the largest Central Arctic expedition ever. The mission will be spearheaded by the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI).

Option A is incorrect: 'Browning' of TajMahal is due to a mix of weathering as well as industrial pollution. India's **Ministry of Petroleum & Natural Gas is taking many steps to reduce pollution**around the TajMahal. These steps included making lead-free petrol more available, discontinuing the use of high-lead petrol and connecting more homes to the liquid petroleum gas grid to reduce the use of dirtier fuels like coal. India has **proposed ban on plastics, polluting factories and construction** around its 17th-century monument.

Option C is incorrect: It is related to Indian Antarctic programme. The programme was initiated in 1981 with the aim of conducting scientific research in the frozen continent Antarctica.

Option D is incorrect: It is related to Deep Ocean Mission. Ministry Of Earth Sciences Plans Rs 8000 Crore 'Deep Ocean Mission' To Boost India's Sea Exploration Capabilities. Deep sea mining is the process of retrieving mineral from the ocean below 200m

https://pib.gov.in/newsite/PrintRelease.aspx?relid=163263

Why this question?

Recently the group of scientists from world community started the largest ever expedition mission into the central Arctic exploring the Arctic climate system

Source: https://www.mosaic-expedition.org/expedition/

88. Consider the following statements

1. All ASEAN members are part of the proposed Regional Comprehensive Economic Partnership Agreement.

2. ASEAN was established in 1967 through the Shanghai declaration.

Which among the above statements is/ are correct?

a.1 only

b.2 only

c.Both 1 and 2

d.Neither 1 nor 2

Answer: A

Statement 1 is correct.

RCEP is a proposed Free Trade Agreement.

The RCEP negotiations were launched by Leaders from 10 ASEAN Member States (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam) and six ASEAN FTA partners (Australia, People's Republic of China, India, Japan, Republic of Korea, and New Zealand) during the 21st ASEAN Summit and Related Summits in Phnom Penh, Cambodia in November 2012.

Statement 2 is incorrect

The Association of SouthEast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand.

89. Which of the following countries is/ are the members of ASEAN?

1. Laos
2. Cambodia
3. India
4. Myanmar
5. China

Select the correct answer using the codes given below

a. 1, 2 and 4 only

b.2, 4 and 5 only

c.1, 2, 4 and 5 only

d.1, 2, 3, 4 and 5

Answer:A

Explanation:

The Association of SouthEast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand.

Brunei Darussalam then joined on 7 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up what is today the ten Member States of ASEAN.

90. Consider the following statements regarding ASEAN.

1. The Association of South East Asian Nations (ASEAN) is a regional grouping that promotes economic, political and security cooperation.

2. Indonesia has the highest share of GDP among ASEAN countries.

Which of the following statements is/are not correct?

a. 1 only

b.2 only

c.Both 1 and 2

d.Neither 1 nor 2

Answer:D

Explanation:

Statement 1 is correct.

The Association of SouthEast Asian Nations (ASEAN) is a regional grouping that promotes economic, political, and security cooperation among its ten members: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

Statement 2 is correct. Indonesia has the highest percent of GDP among ASEAN.

Source:

https://asean.org/asean/about-asean/

https://www.statista.com/statistics/796245/gdp-of-the-asean-countries/

91. Consider the following statements regarding Jim Corbett National Park

1. It is located between Siwalik in the South and lesser Himalayas in the North.

2. It has vegetation type ranging from grassland to moist deciduous forest to Himalayan subtropical pine forest.

3. River Ramganga passes through this National Park.

Which of the statements given above is/are **INCORRECT**?

(a) 1 only

(b) 2 and 3 only

(c)1 and 3 only

(d) None of the above

Ans: (d)

Explanation:

Statement 1 is correct: It is located in Nainital district of Uttarakhand partially between Siwalik in the South and lesser Himalayas in the North.

Statement 2 is correct: It is characterized by grassland type of vegetation in the terai belt (Southern limit). In the Northern part its vegetation progresses into moist deciduous forest and into sub Himalayan pine forest.

Statement 3 is correct: Ram ganga is a tributary of the river Ganges, which originates in the high altitude zone of Namik Glacier and flows through the Jim Corbett National Park.

Source:

https://en.wikipedia.org/wiki/Jim_Corbett_National_Park

https://www.corbettNationalpark.in

92. Consider the following species:

1. Hangul
2. Himalayan brown bear
3. Musk deer
4. Wild ass

Which of the above can be seen in Dachigam National Park?

(a) 1 and 3 only

(b) 3 and 4 only

(c) 1, 2 and 3 only

(d) All of the above

Ans: (c)

Explanation:

Dachigam National Park is located in the Union territory of Kashmir.

All the above mentioned species except Wild ass is found in this region.

Saline deserts (Rann), arid grasslands and shrublands are the preferred environments for Wild ass. Consequently, its is found distributed in the Western parts of India.

Source:

http://www.kashmir-tourism.org/jammu-kashmir-wildlife/dachigam-National-park.html

93. Consider the following pairs

National Park	Location
(A) Nokrek National Park	(I) Western Himalayas
(B) Bandhavgarh National Park	(II) Shillong plateau
(C) Nandadevi National Park	(III)Western Ghats
(D) Mathikettan Shola National Park	(IV)Vindhyas

Which of the above pairs is/are correctly matched?

	A	B	C	D
(a)	II	IV	I	III
(b)	III	I	II	IV
(c)	I	II	IV	III
(d)	III	IV	I	II

Ans: (a)

Explanation:

National Park	Location
Nokrek National Park	Shillong plateau
Bandhavgarh National Park	Vindhya range
Nandadevi National Park	Western Himalayas
Mathikettan shola National Park	Western Ghats

94. Consider the following statements regarding a protected area in India:

1. It is a Tiger Reserve, a Wildlife Sanctuary and also a National Park. It also featured in the World Network of Biosphere Reserves.

2. River Kharkai a tributary of the Subarnarekha River flows through this area.

3. It derives its name from red silk trees, which are abundant in this forest.

4. Mankidia, a marginalised group depends on making rope with siali fibre that is richly available in this area

Which one of the following protected areas is described in the above statements?

(a) Similipal

(b) Dampa

(c) Bhitarkanika

(d) Nandhadevi

Ans: (a)

Source: https://www.similipal.org

http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/asia-and-the-pacific/india/similipal/

https://www.thehindu.com/news/National/mankidia-denied-habitat-in-simlipal/article22392195.ece

95. Consider the following statements regarding Ranthambore National Park:

1. It is bounded to the North by the Banas River and to the South by the Chambal River.

2. It is located in the state of Madhya Pradesh.

3. In order to increase the tiger population in Ranthambore, tigers have been translocated from other protected regions to this National Park.

Which of the statements given above is/are **correct**?

(a) 1 only

(b) 2 and 3 only

(c)1 and 3 only

(d) 1, 2 and 3

Ans: (a)

Explanation:

Statement 1 is correct: It is bounded to the North by the Banas River (originates in Aravalli: It is a tributary of Chambal) and to the South by the Chambal River (originates in Mhow town on the Southern slope of Vindhya: It is a tributary of the Yamuna river).

Statement 2 is incorrect: It is located in the South Eastern part of the state of Rajasthan. The park's deciduous forests are characteristic examples of the type of jungle found in Central India.

Statement 3 is incorrect: Tigers are being translocated from Ranthambore to other protected areas like Mukundra hill Tiger Reserve to increase the tiger population. In a fresh attempt, Ranthambore Tiger Reserve would translocate one of its tiger to the Sariska Tiger Reserve.

Source:

https://timesofindia.indiatimes.com/city/jaipur/tigress-t-106-relocated-to-mukundra/articleshow/67152646.cms

https://www.ranthamboreNationalpark.com

https://www.ranthamboreNationalpark.com/blog/tiger-relocation/

96. Consider the following countries:

1. Norway
2. Sweden
3. Denmark
4. Finland
5. Russia

Which of the above countries have land within Arctic circle?

(a) 1 and 2 only

(b) 1, 3 and 5 only

(c) 1, 2, 4 and 5 only

(d) All of the above

Ans: (d)

Explanation:

The Arctic Circle is the Southernmost latitude (66.5 approx) in the Northern Hemisphere at which the centre of the sun can remain **continuously** above or below the horizon for twenty-four hours; as a result, at lEast once each year at any location within the Arctic Circle the sun is visible at local midnight, and at lEast once the centre is not visible at local noon

The land within the Arctic Circle is divided among eight countries: Norway, Sweden, Finland, Russia, the United States, Canada, Denmark (Greenland), and Iceland.

97. What is the correct sequence of occurrence of the following seas from North to South?

1. Baltic sea
2. White sea
3. Bay of Biscay
4. Barents Sea

Select the correct answer using the code given below.

A. 4-2-1-3

B. 3-4-2-1

C. 3-4-1-2

D. 4-3-2-1

Solution (a)

(IAS Academy by IAS Officers)

98. Which among the following countries are separated by the Strait of Gibraltar:

(a) Portugal and Morocco

(b) Spain and Algeria

(c) Portugal and Algeria

(d) Spain and Morocco

Ans: (d)

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Web: www.officersiasacademy.com

Explanation: The Strait of Gibraltar is a narrow strait that connects the Atlantic Ocean to the Mediterranean Sea and separates Gibraltar (belongs to UK) and Peninsular Spain in Europe from Morocco in Africa.

99. Consider the following statements about a Balkan country:

1. It is a landlocked country.

2. Kosovo, a province of this country, unilaterally declared independence, with mixed responses from the interNational community. Now it is a partially recognized disputed territory.

Which of the following countries is described in the above statements?

(a) Albania

(b) Croatia

(c) Serbia

(d) Romania

Ans: (c)

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Explanation: Self explanatory

100. Catalonia, a semi-autonomous region, often seen in news is located in which among the following countries:

(a) France

(b) Portugal

(c) Spain

(d) Ireland

Ans: (c)

Explanation:

Catalonia is a semi-autonomous region in **Iberian Peninsula** in the North-Eastern Spain with a distinct history dating back almost 1,000 years. The wealthy region has about 7.5 million people, with their own language, parliament, flag and anthem.

Catalonia also has its own police force and controls some of its public services.

Catalan Nationalists have long complained that their region sends too much money to poorer parts of Spain, as taxes are controlled by Madrid and receives much less from Spain. In a referendum on 1 October 2017, declared illegal by Spain's Constitutional Court, about 90% of Catalan voters backed independence. But turnout was only 43%.

The ruling separatists in the Catalan parliament then declared independence on 27 October. Angered by that, Madrid imposed direct rule by invoking Article 155 of the constitution - a first for Spain. The Spanish government sacked the Catalan leaders, dissolved parliament and called a snap regional election on 21 December 2017, which Nationalist parties won.

Since then the region has been witnessing numerous protests from the separatists.

Source:

https://www.bbc.com/news/world-europe-41584864

https://www.thehindu.com/news/interNational/200-injured-as-protesters-clash-with-police-in-catalonia/article29746451.ece