(IAS Academy by IAS Officers)

Test No 2

1. **Which of the following are reasons for Venus to be called as 'Earth's Twin'?**
   1. Its size is very much similar to that of the Earth
   2. It takes the same time as Earth to revolve around the Sun
   3. Its shape is very much similar to that of the Earth.

   Select the correct answer using the codes given below

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

   Ans : C

   Explanation

   Venus is considered as 'Earth's-twin' because its **size and shape are very much similar** to that of the Earth.

   Statement 1 is correct : The diameter of Venus is 12,103.6 km, While the diameter of Earth is 12,756 Km so both have similar sizes. When compared with size differences between other planets this range is miniscule.

   Statement 2 is incorrect : Earth takes 365 days to complete one revolution, while venus takes 225 Earth days to revolve around the Sun. **The similarity of planets is not defined on the basis of period of revolution**

   Statement 3 is correct : Both Earth and Venus have **near spherical shape**

   Source: 6th NCERT page 4

2. **Consider the following pairs**

1. Meteoroids A. Tiny bodies which move around the Sun between the orbits of Mars and Jupiter.
2. Satellite B. A small piece of rock moving in the solar system that would become a meteor if it entered Earth's atmosphere.
3. Asteroid C. A small Celestial body orbiting the Sun with a substantial fraction of its composition made of volatile ice.
4. Comet D. A celestial body that moves around the planets in the same way the planets move around the Sun.

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

Ans : C

Explanation

- A **Satellite i**s a celestial body that **moves around the planets** in the same way as the planets move around the Sun

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

- Apart from the stars, planets and satellites, there **are numerous tiny bodies** which also move around the Sun. **These bodies are called asteroids.** They are found between the **orbits of Mars and Jupiter**
- **The small pieces of rocks** which move around the Sun are called **meteoroids**. Sometimes these meteoroids come near the Earth and tend to drop upon it. During this process **due to friction** with the air **they get heated up and burn** causing a **flash of light known as Meteor**
- Comet is **a small Celestial body** orbiting the Sun with a substantial fraction of its composition **made of volatile ices**.

6th NCERT Page no: 6

3. Consider the following statements

1. The distance between parallels of latitudes decreases towards the poles
2. All the meridians of longitudes meet at a point

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

- An imaginary line running on the globe divides it into two equal parts. This line is known as the **equator.**
- **All parallel circles from the equator** up to the poles are called **parallels of latitudes**. Latitudes are measured in degrees.
- **Statement 1 is incorrect :** When we move away from the equator towards the poles only the size of the parallels of latitude decreases but the **distance between parallels of latitudes remains the same**
- **The lines of references** running from the North Pole to the South Pole are called the **meridians of longitude**
- **Statement 2 is correct** : They are semicircles and the **distance between them decreases steadily polewards** until it becomes zero at the poles, **where all the meridians meet**.

6th NCERT Page no: 11 and 13.

4. Consider the following statements

1. The mid-day Sun is exactly overhead at least once a year on all latitudes
2. From the equator, the angle of the Sun's rays goes on increasing towards the poles

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

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

Explanation

- **Statement 1 is incorrect:** The mid-day Sun is exactly overhead at least once a year on all **latitudes inbetween the Tropic of Cancer and the Tropic of Capricorn** (Not on all latitudes)**.** therefore, receives the maximum heat and is called the Torrid Zone.
- **Statement 2 is incorrect :**The mid-day Sun never shines overhead on any latitude beyond the Tropic of Cancer and the Tropic of Capricorn. **The angle of the Sun's rays goes on decreasing towards the poles.**

6th NCERT Page no: 12

5. Temperate zones have moderate temperature when compared to the Torrid Zone due to

a) Extensive cloud cover in the region
b) Angle of Sun's rays decreases towards the poles
c) Temperate zones have larger ocean surface area when compared with the Torrid Zone, which moderates the temperature
d) They are farther away from the Sun.

Ans : B

Explanation

- The mid-day Sun never shines overhead on any latitude beyond the Tropic of Cancer and the Tropic of Capricorn. **The angle of the Sun's rays goes on decreasing towards the poles**. As such, the areas bounded by the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere, and the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere, **have moderate temperatures**. Therefore these are called**Temperate Zones.**

6th NCERT Page no: 12

6. Consider the following statements regarding Winter Solstice.

1. The places beyond the Arctic Circle experiences continuous daylight for about six months
2. It is summer in the southern hemisphere with longer days and shorter nights.
3. The rays of the Sun fall directly on the Tropic of Cancer

Which of the above given statements is/are INCORRECT?

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

Ans : B

Explanation

- **Statement 1 is incorrect** : It is **during the Summer Solstice, the places beyond the Arctic Circle experience continuous daylight for about six months** (Not during winter solstice)
- **Statement 3 is incorrect**: On 22nd December, **the Tropic of Capricorn receives direct rays of the Sun** (Not Tropic of Cancer) as the South Pole tilts towards it.
- **Statement 2 is correct:** As the Sun's rays fall vertically at the Tropic of Capricorn (23½° S), a larger portion of the Southern Hemisphere gets light. Therefore**, it is summer in the Southern**

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

Hemisphere with longer days and shorter nights. The reverse happens in the Northern Hemisphere. This position of the Earth is called the **Winter Solstice**
6th NCERT Page no: 20

7. **Which of the following statements is INCORRECT with respect to Equinox?**
   a) The direct rays of the Sun fall on the equator
   b) On 21st March, it is Autumn in the Northern Hemisphere
   c) The whole Earth experiences equal days and equal nights
   d) During equinox, neither of the poles is tilted towards the Sun
   Ans : B
   Explanation

- On 21st March and September 23rd, **direct rays of the Sun fall on the equator**. At this position, **neither of the poles is tilted** towards the Sun; so, the **whole Earth experiences equal days and equal nights**. This is called an **equinox.**
- **Option B is incorrect:** On 23rd September, it is autumn season in the Northern Hemisphere and spring season in the Southern Hemisphere. The opposite is the case **on 21st March, when it is spring in the Northern Hemisphere and autumn in the Southern Hemisphere**
  6th NCERT Page no: 20

8. **Consider the following statements with respect to Asia**
   1. Asia is separated from Europe by the Ural Mountains on the West
   2. Both the Tropic of Capricorn and Equator do not passes through the continent
   3. It lies entirely in the northern Hemisphere
   Which of above given statements is/are correct?
   a) 1 and 2 only
   b) 2 only
   c) 1, 2 and 3
   d) 1 only
   Ans : D
   Explanation

- Asia is the **largest continent**. It covers about one third of the total land area of the Earth
- **Statement 1 is correct :** Asia is separated from Europe by the Ural mountains on the West
- **Statement 2 is incorrect** The **Tropic of Cancer and Equator passes** through this continent. The equator passes through Indonesia, Maldives etc The combined landmass of Europe and Asia is called the Eurasia
- **Statement 3 is incorrect :**Asian continentlies in both Northern and southern Hemisphere. Example : **Indonesia**
  6th NCERT Page no: 32

9. **Consider the following**
   1. Maitri
   2. Dakshin Gangotri

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

3. Himadri
4. Bharati

Which of the above is/are research stations established by India in Antartica?

a) 2 and 3 only
b) 1 and 2 only
c) 1, 2 and 4 only
d) 1, 2 and 3 only

Ans: C

Explanation

- **Antarctica, completely in the Southern Hemisphere**, is a huge continent. There are no permanent human settlements. Many countries have research stations in Antarctica. India also has research stations there. These are named as
  - **Maitri**
  - **DakshinGangotri** and
  - Bharati (Established since 2013)
- **Himadri** is a research station in **Arctic region**

6th NCERT Page no: 33

10. Consider the following statements

1. North America is linked to South America by a very narrow strip of land called the Isthumus of Panama
2. The Arctic Ocean is connected with the Pacific Ocean by a narrow stretch of shallow water known as Bosphorous Strait.

Which of the above given statements 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 :**North America is the third largest continent of the world. It is **linked to South America** by a very narrow strip of land called the **Isthmus of Panama.**
- **Statement 2 is incorrect :**The Arctic Ocean is located within the Arctic Circle and surrounds the North Pole. **It is connected with the Pacific Ocean by a narrow stretch of shallow water known as Berring strait.** (NotBosporous strait)
- Bosporous strait connects the Black Sea to the Sea of Marmara,

6th NCERT Page no: 35

11. Which of the following comprises the Hydrosphere?

1. Ice in glaciers

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

2. Water in rivers, lakes and ocean
3. Water vapour in atmosphere
4. Underground water

Select the correct answer using the codes given below

a) 2 and 4 only
b) 1, 2 and 4 only
c) 2 only
d) 1, 2, 3 and 4

Ans : D

Explanation

The Earth is called the blue planet. More than 71 per cent of the Earth is covered with water and 29 per cent is with land. Hydrosphere consists of water in all its forms.

- As **running water in oceans and rivers and in lakes**
- ice in glaciers
- underground water and
- the **water vapour in atmosphere**

6th NCERT Page no: 33

12. Consider the following statements with respect to Block mountains

1. These are formed when large areas are broken and displaced horizontally
2. The Rhine valley in Europe is one of the prominent Block mountains

Which of above given statements is/are correct?

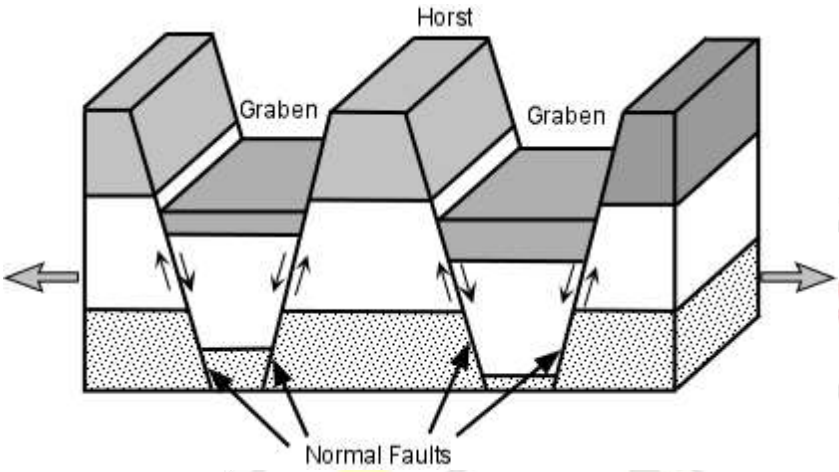
a) 1 only
b) 2 only
c) Both 1 and 2 only
d) Neither 1 nor 2

Ans : B

Explanation

- **Statement 1 is incorrect :** Block Mountains are created when **large areas are broken and displaced vertically** (not horizontally)

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



- **Statement 2 is correct :**The uplifted blocks are termed as horsts and the lowered blocks are called graben. The **Rhine valley and the Vosges mountain in Europe** are **examples** of such mountain systems.
  6th NCERT Page no: 41

13. Consider the following

Falls	Rivers associated
1. Jog falls	Sharavathi River
2. Hundru falls	Narmada River
3. Dudhsagar falls	Mandovi River

Which of the above pairs is/are correctly matched?

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

Ans :B

Explanation

- In the **plateau areas**, there may be **several waterfalls** as the river falls from a great height.
- The **Hundru falls** in the Chhotanagpur plateau on the **river Subarnarekha**
  Jog falls in Karnataka created by the **Sharavathi River**
- **Dudhsagar Falls** is a four-tiered waterfall **located on the Mandovi River** in the Goa.
  6th NCERT Page no: 43

14. Consider the following statements with respect to India

1. The East-West extent of the country is greater than the North-South extent.
2. The local time of longitude of 82° 30' West has been taken as the Indian Standard Time (IST).

Which of the above given statements is/are INCORRECT?

a) 1 only

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

b) 2 only
c) Both 1 and 2 only
d) Neither 1 nor 2
Ans : C
Explanation

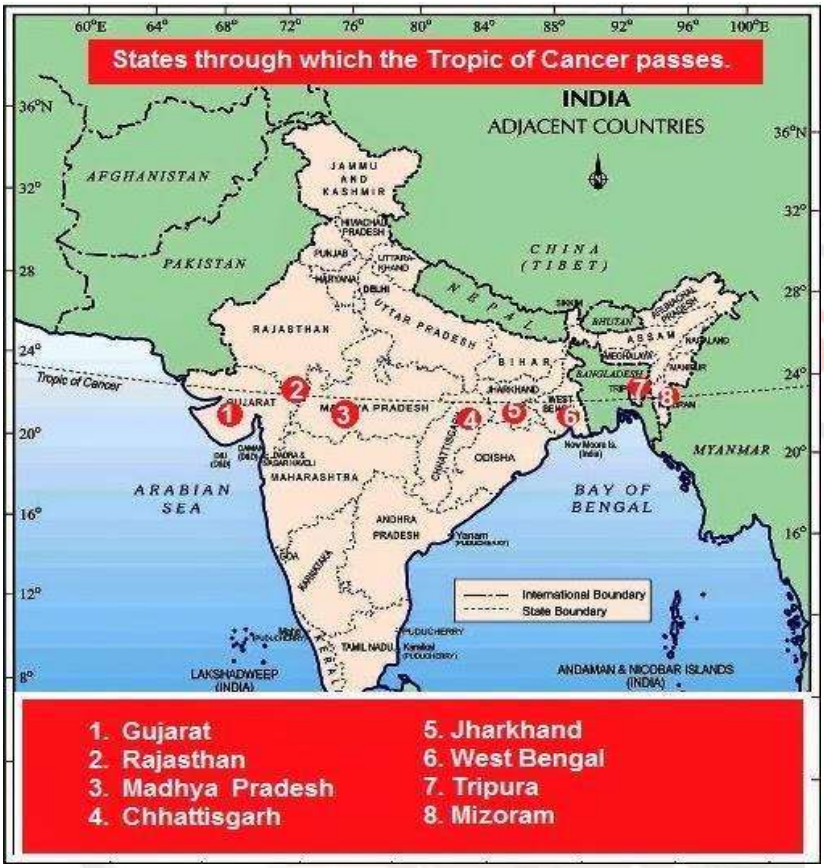
- **Statement 1 is incorrect :**The north-south extent from Kashmir to Kanyakumari is about 3,200 km. And the East-West extent from Arunachal Pradesh to Kuchchh is about 2,900 km. So the **East-West extent of the country is lesser than the North-South extent**.
- **Statement 2 is incorrect** : The Sun rises about two hours earlier in the East(Arunachal Pradesh) than in the West (Gujarat).The **local time of longitude of 82° 30' East (not West)** has been taken as the Indian Standard Time (IST). **This meridian or longitude is also termed as the Standard Meridian of India.**
  6th NCERT Page no: 47

15. Tropic of Cancer passes through which of the following states in India?
1. West Bengal
2. Rajasthan
3. Manipur
4. Chhattisgarh

Select the correct answer using the codes given below
a) 1 and 4 only
b) 1 only
c) 1, 2 and 4 only
d) 1, 3 and 4 only
Ans : C
Explanation

- India is located in the northern hemisphere. The **Tropic of Cancer (23°30'N)** passes almost halfway through the country
- it passes through 8 states Madhya Pradesh, Gujarat, Rajasthan, Chhattisgarh, Jharkhan, West Bengal, Tripura and Mizoram.

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



6th NCERT Page no: 49

16. With respect to the Peninsular Plateau, consider the following statements

1. One of the unique features is that the relief is even throughout its landscape
2. It is triangular in shape
3. It is bordered by Aravali hills in the North Western side.

Which of the above given statements is/are correct?

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

Ans : B

Explanation

- **Statement 2 is correct :**To the south of northern plains lies the Peninsular plateau. It is **triangular in shape.**
- **Statement 1 is incorrect :** The relief **is highly uneven** (not even throughout its landscape)

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

- **Statement 3 is correct :**This is a region with numerous hill ranges and valleys. **Aravali hills, one of the oldest ranges of the world, border it on the north-West side.** The Vindhyas and the Satpuras are the important ranges. The rivers Narmada and Tapi flow through these ranges. These are West-flowing rivers that drain into the Arabian Sea.
  6th NCERT Page no: 51

17. Which of the following statements is INCORRECT with respect to physical features of India?

a) Coastal plains of India lie to the West of Western Ghats and to the East of the Eastern Ghats
b) The Great Indian desert which is a hot, dry and sandy stretch of land lies towards the Eastern margin of the Aravali range.
c) While the Western Ghats are almost continuous, the Eastern Ghats are broken and uneven
d) The Eastern coastal plains are broader than the Western coastal plains

Ans : B

Explanation

- **Option A is correct** : To the **West of the Western Ghats and the East of Eastern Ghats** lie the Coastal plains.
- **Option B is incorrect :** The Great Indian desert which is a hot, dry and sandy stretch of land lies **towards the Western margin of Aravali range**
- **Option C is correct :** Western Ghats are **almost continuous**, the Eastern Ghats are broken and uneven
- **Option D is correct :**The Western coastal plains are very narrow. The **Eastern Coastal plains are much broader**
  6th NCERT Page no: 51

18. Climate of a region is affected by which of the following factors?

1. Altitude
2. Location
3. Relief
4. Distance from the sea.

Select the correct answer using the codes given below

a) 1, 2 and 3 only
b) 2 and 3 only
c) 1, 2 and 4 only
d) 1, 2, 3 and 4.

Ans : D

Explanation

The **climate of a place is affected by its**

- Location
- Altitude
- Distance from the sea and
- Relief

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

- Due to the above factors, we **experience regional differences in the climate of India**. Jaisalmer and Bikaner in the **desert of Rajasthan are very hot**, while Drass and Kargil in Jammu and Kashmir are freezing cold. **Coastal places** like Mumbai and Kolkata **experience moderate climate.** They are neither too hot nor too cold. Being on the coast, these places are very humid.
  6th NCERT Page no: 58

19. Tropical rain forest always appear green (throughout the year) due to which of the following?

a) They receive rainfall throughout the year
b) Tropical rain forest are well stratified (layer of vegetation ranges from shrubs to tall trees)
c) They have many species of trees, which shed leaves at different times of the year.
d) They never shed their leaves.

Ans : C

Explanation

- Tropical rain forests occur in the areas which receive heavy rainfall. They are so dense that Sunlight doesn't reach the ground. **Many species of trees are found in these forests**, which **shed their leaves at different times of the year**. **Therefore they always green** and are called evergreen trees
- Trees found in these forest are **mahogany, ebony and rosewood**.
  6th NCERT Page no: 58

20. Which of the following is/are migratory birds found in India?

1. Pintail Duck
2. Siberian Crane
3. Flamingo
4. Jerdon's courser

Select the correct answer using the codes given below

a) 1, 2 and 3 only
b) 2, 3 and 4 only
c) 1, 2 and 4 only
d) 1, 2, 3 and 4.

Ans : A

Explanation

- In India and South Asia, out of over 2000 species and sub-species**, about 350 are migrants**. It is estimated that **over 100 species of migratory birds fly into India**, either in search of food or to escape severe winter of their native habitat. In the Indian subcontinent the **majority of migratory birds are winter migrants.**
- **Some birds such as the** Pintail Duck, **Siberian crane, Flamingo, Pelican** and curlew migrate to India in the **winter season every year**.
- Jerdon's courser is critically endangered bird which is **endemic to state of Andhra Pradesh**
  - Nocturnal bird
  - Found **only in the Eastern Ghats** of the state of Andhra Pradesh in peninsular
  - The species was considered to be extinct until it was rediscovered in 1986 and the area of rediscovery was subsequently declared as the **Sri Lankamaleswara WildlifeSanctuary**

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

- Inhabits sparse, **thorny and non-thorny scrub-forest and bushes**, interspersed with patches of bare ground, in gently undulating, rocky foothills

6th NCERT Page no: 64

21. Consider the following statements regarding 'Frigid zones'

1. These are the areas lying between the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere and the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere.
2. These areas are very cold because the Sun's rays are always slanting and provide less heat.

Which of above given statements is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2 only
d) Neither 1 nor 2

Ans : B

Explanation

- **Statement 1 is incorrect :** Areas lying between the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere and the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere constitute **Temperate Zones (not Frigid zone)**
- **Statement 2 is correct :**Areas lying between the **Arctic Circle and the North Pole in the Northern Hemisphere and the Antarctic Circle and the South Pole in the Southern Hemisphere**, are very cold.
- It is because here the Sun does not rise much above the horizon. Therefore, its **rays are always slanting and provide less heat. These are, therefore, called Frigid Zones (very cold).**

6th NCERT Page no: 12

22. Consider the following pairs with respect to the main mineral constituents of the interior of the Earth

1. Continental crust - Silica and Magnesium
2. Oceanic crust - Silica and Alumina
3. Core - Nickel and Iron

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

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

Ans: C

Explanation

- The Earth is made up of several concentric layers with one inside another. The uppermost layer over the Earth's surface is called the crust. It is the thinnest of all the layers.
- The main mineral constituents of the **continental mass are silica and alumina**. It is thus called **sial (si-silica and al-alumina).**

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

- The **oceanic crust mainly consists of silica and magnesium**; it is therefore called **sima (si-silica and ma-magnesium)**
- The innermost layer is the **core** with a radius of about3500 km. It is **mainly made up of nickel and iron and is called nife**

7th NCERT page no : 7

23. Which one of the following is the best description of the term "ecosystem"?

a) A community of organisms interacting with one another
b) That part of the Earth which is inhabited by living organisms
c) A community of organisms together with the environment in which they live.
d) The flora and fauna of a geographical area.

Ans : C

Explanation

- It is a system formed by the **interaction of all living organisms with each other** and with the physical and chemical factors of the **environment in which they live**
- All plants, animals and human beings **depend on their immediate surroundings**. Often they are also interdependent on each other. This relation between the living organisms, as well as the **relation between the organisms and their surroundings form an ecosystem**.
- There could be an **ecosystem of large rain forest, grassland, desert, mountains, lake, river, ocean and even a small pond**

7th NCERT page no : 4

24. Consider the following statements regarding types of igneous rocks

1. Extrusive igneous rocks have a very fine grained structure, while intrusive igneous rocks have a coarse grained structure
2. Granite and basalt are examples of extrusive and intrusive igneous rocks respectively.

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

- There are **two types of igneous rocks**
- Intrusive rocks and extrusive rocks.
- Lava is actually fiery red molten magma coming out from the interior of the Earth on its surface. When **this molten lava comes on the Earth's surface, it rapidly cools down** and becomes solid. Rocks formed in such a way on the crust **are called extrusive igneous rocks**. They have a **very fine grained structure**.
- **Example : Basalt** (The Deccan plateau is made up of basalt rocks)

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

- Sometimes the **molten magma cools down deep inside the Earth's crust**. Solid rocks so formed are called **intrusive igneous rocks**. Since they cool down slowly **they form large grains**.
- **Example : Granite** is an example of such a rock.

7th NCERT page no : 8

25. Which of the following is/are responsible for Lithospheric plate movement?

1. The rotational movement of Earth on its axis
2. The movement of molten magma inside the Earth
3. Revolution of Earth around the Sun

Select the correct answer using the codes given below

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

Ans : B

Explanation

- The **lithosphere is broken into a number of plates** known as the Lithospheric plates.
- These plates move around very slowly, just a few millimetres each year. **This is because of the movement of the molten magma inside the Earth**. (not due to rotation or revolution of Earth)
- The **molten magma inside the Earth moves in a circular manner**
- The movement of these plates **causes changes on the surface of the Earth**The Earth movements are divided on the basis of the forces which cause them. The forces which act in the **interior of the Earth are called as Endogenic forces** and the forces that work on the **surface of the Earth are called as Exogenic forces**

7th NCERT page no : 12

26. Consider the following statements with respect to Earthquakes

1. The place in the crust where the movement starts is called the focus
2. The place on the surface above the focus is called the epicentre.
3. Seismic waves radiate out in all directions.

Which of the statements given above is/are INCORRECT?

a) 1 and 2 only
b) 3 only
c) 1, 2 and 3
d) None of the above

Ans : D

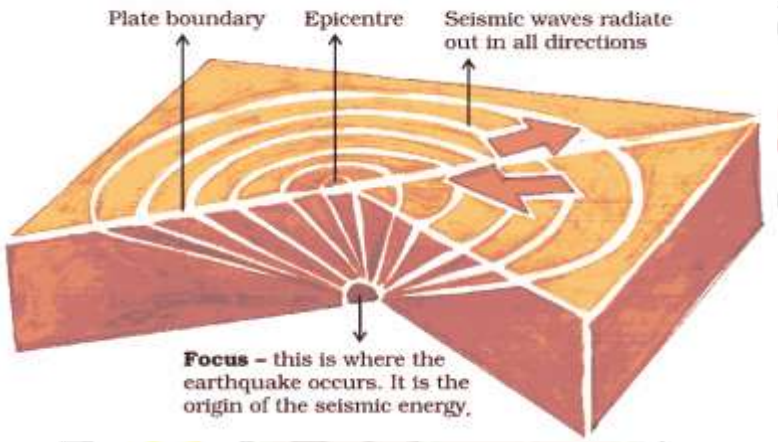
All are correct statements

Explanation

- when the Lithospheric plates move, the surface of the Earth vibrates. **The vibrations can travel all round the Earth.** These vibrations are called **Earthquakes**
- **Statement 1 is correct** : The **place in the crust where the movement starts is called the focus**.
- **Statement 2 is correct** : The place on **the surface above the focus is called the epicentre**.

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

- **Statement 3 is correct** : Vibrations travel outwards from the epicentre as waves. **Seismic waves radiate out in all directions.**
- Greatest damage is usually closest to the epicentre and the strength of the Earthquake decreases away from the centre.



7th NCERT page no : 13

27. Arrange the following coastal landforms in the increasing order of erosion level they are subjected to

1. Stacks
2. Sea caves
3. Sea arches

Select the correct answer using the codes given below

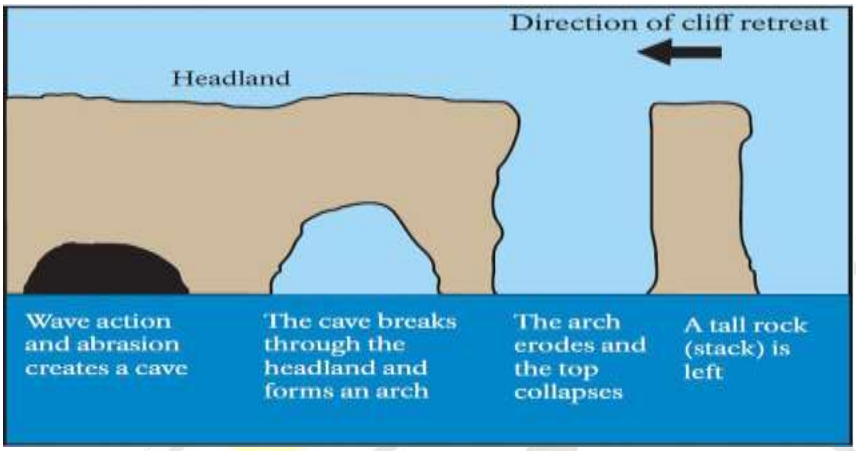
a) 1-3-2
b) 2-3-1
c) 3-2-1
d) 2-1-3

Ans : B

Explanation

- The erosion and deposition of the sea waves **gives rise to coastal landforms**.
- Seawaves continuously strike at the rocks which leads to development of cracks .Over time they become larger and wider. Thus**, hollow like caves are formed on the rocks**. They are called **sea caves**. As these **cavities become bigger and bigger** only the roof of the caves remain, thus **forming sea arches**. Further, erosion breaks the roof and only walls are left. These **wall like features are called stacks**
- **Sea caves----> Sea arches----> Stacks**

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



7th NCERT page no : 16

28. Which of the following statements is INCORRECT with respect to landforms made by a river

a) As a river enters the plains, it twists and turns forming large bends known as meanders.
b) Due to continuous erosion and deposition along the sides of the meander, the meander loop cuts-off from the river and forms a cut-off lake called ox-bow lake.
c) As the river approaches the sea, the speed of the flowing water decreases and the river begins to break up into a number of streams called tributaries.
d) The collection of sediments of all the distributaries at the mouth forms the delta of the river.

Ans : C

Explanation

- **Option A is correct** : As river enters the plains, it twists and turns **forming large bends known as meanders**
- **Option B is correct** : Due to **continuous erosion and deposition along the sides of the meander**, the ends of the meander loop come closer and closer. In due course of time the meander loop cuts off from the river and forms a cut-off lake, also called an **ox-bow lake.**
- **Option C is incorrect :** As the river approaches the sea, the speed of the flowing water decreases and river begins to break up into a **number of streams called distributaries (not tributaries)**
- **Option D is correct :** The collection of **sediments of all the distributaries at the mouth forms the delta of the river**

7th NCERT page no : 15

29. Arrange the following gases in their decreasing order of concentration in the atmosphere

1. Oxygen
2. Argon
3. Nitrogen
4. Carbon dioxide

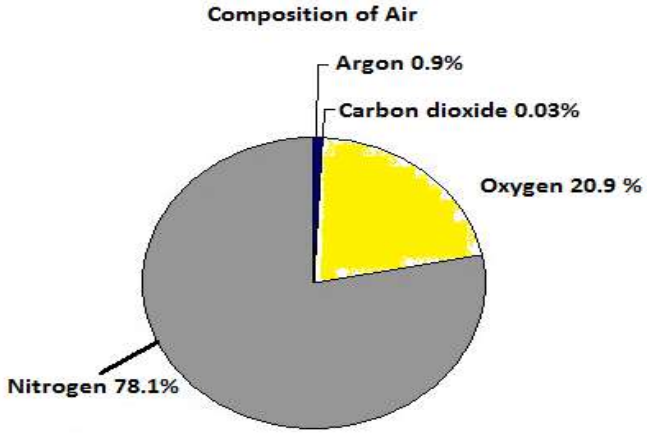
Select the correct answer using the codes given below

a) 3-4-1-2

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

b) 1-3-4-2
c) 3-1-4-2
d) 3-1-2-4
Ans : D
Explanation

- Nitrogen and oxygen are two gases which make up the bulk of the atmosphere. Carbon dioxide, helium, ozone, argon and hydrogen are found in lesser quantities. Apart from these gases, tiny dust particles are also present in the air.



Name of Constituents	% Composition
Nitrogen gas	78.1%
Oxygen gas	20.9%
Carbon dioxide gas	0.03%
Argon	0.9%

Other components of air are water vapour and dust particles

7th NCERT page no : 20

30. Consider the following statements regarding Air pressure
1. Air pressure is loWest at sea level and increases with altitude
2. A low pressure area is associated with cloudy skies and wet weather
3. Horizontal distribution of air pressure is influenced by temperature of air at a given place.
Which of the statements given above is/are correct?
a) 2 and 3 only
b) 2 only
c) 1 and 2 only
d) 1, 2 and 3.
Ans : A
Explanation

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

- **Statement 1 is incorrect** : Air pressure is defined as the pressure exerted by the weight of air on the Earth's surface. **As we go up the layers of atmosphere, the pressure falls rapidly**. The air pressure is highest at sea level and decreases with height.
- **Statement 3 is correct :Horizontally the distribution of air pressure is influenced by temperature** of air at a given place. In areas where temperature is high the air gets heated and rises. This creates a low-pressure area.
- **Statement 2 is correct** : Low pressure is **associated with cloudy skies and wet weather**. In areas having lower temperature, the air is cold. It is therefore heavy. Heavy air sinks and creates a high pressure area. High pressure is associated with clear and Sunny skies. The air always moves from high pressure areas to low pressure areas.

7th NCERT page no : 24

31. What is the correct sequence of occurrence of following seas as one proceeds from East to West?

1. Red Sea
2. Caribbean Sea
3. Coral Sea
4. Mediterranean Sea
5. Arabian Sea

Select the correct answer using the codes given below

a) 5-1-2-4-3
b) 2-3-5-1-4
c) 5-1-4-3-2
d) 3-5-1-4-2

Ans : D

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

32. Consider the following ocean currents

1. Humboldt
2. Gulf Stream
3. Labrador
4. Oyashio

Which of the above are Cold ocean currents?

a) 3 and 4 only
b) 1, 3 and 4 only
c) 2, 3 and 4 only
d) 1, 2, 3 and 4.

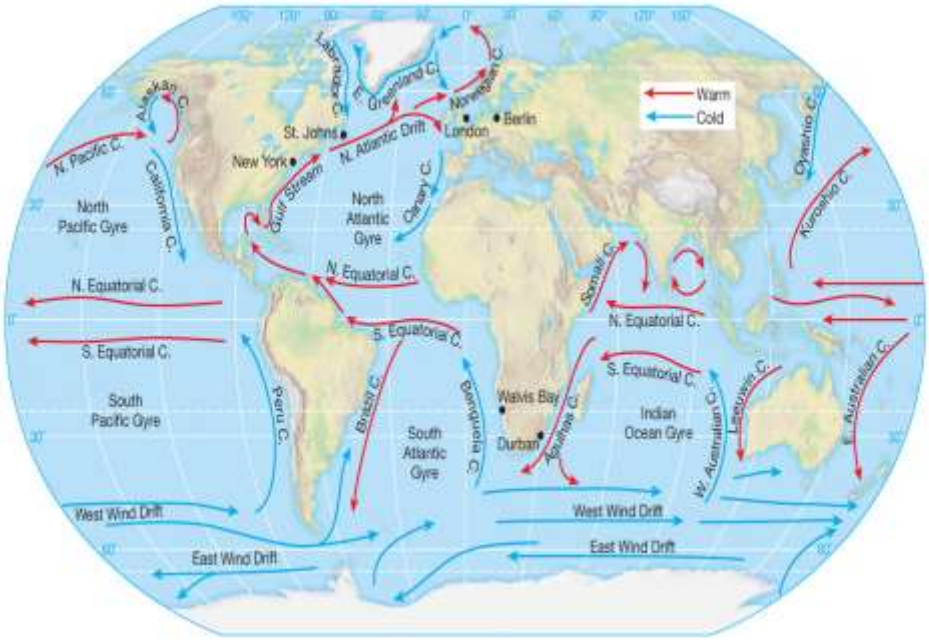
Ans : B

Explanation

- All the currents given above except Gulf stream are cold currents
- Ocean currents are streams of water flowing constantly on the ocean surface in definite directions. **The ocean currents may be warm or cold**
- Generally, the **warm ocean currents originate near the equator and** move towards the poles. The **cold currents carry water from polar** or higher latitudes to tropical or lower atitudes.

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

- The Labrador Ocean current is cold current while the **Gulf Stream is a warm current**. The ocean current influence the temperature conditions of the area. **Warm currents bring about warm temperature over land surface.**



7th NCERT page no : 37 – The Peru current is also known as the Humboldt current.

33. Which of the following group of trees belong to the category of 'Softwood evergreen trees'?

a) Oak, Ash and Beech
b) Chir, Pine and Cedar
c) Ebony, Mahogany and Rosewood
d) Teak, Shisham and Sal.

Ans : B

Explanation

- In the higher latitudes (50° – 70°) of Northern hemisphere the spectacular Coniferous forests are found.These are also called as Taiga. **The trees are tall, softwood evergreen trees**. **Chir, pine, cedar are the important variety of trees** in these forests.
- Oak, Ash and beech are **temperate deciduous trees**
- Ebony, mahogany and rosewood are **hardwood evergreen trees**
- Teak, shisham and sal are trees found in **tropical deciduous forest**

7th NCERT page no : 43

34. Consider the following statements with respect to Tundra region

1. The growth of natural vegetation is very limited and the region is dominated by mosses, lichens and very small shrubs

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

2. The animals have thick fur and thick skin to protect themselves from the cold climatic conditions

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 : C

Explanation

- **Statement 1 is correct :** In polar regions, the growth of natural vegetation is very limited. **The region is dominated by mosses, lichens and very small shrubs**. It grows during the very short summer. This is called **Tundra type of vegetation.** This vegetation is found in the polar areas of Europe, Asia and North America.
- **Statement 2 is correct** : The **animals have thick fur and thick skin to protect themselves from the cold climatic conditions**. Seal, walruses, musk-oxen, Arctic owl, Polar bear and snow foxes are some of the animals found here

7th NCERT page no : 44

35. Consider the following statements with respect to Tides

1. Tides are the rhythmic rise and fall of ocean water once in a day
2. The strong gravitational pull exerted by the Sun and the Moon on the Earth's surface causes the tides.
3. During the full Moon and new Moon days, the Earth experiences Neap tides.

Which of the statements given above is/are correct?

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

Ans : B

Explanation

- **Statement 1 is incorrect :**The **rhythmic rise and fall of ocean water twice in a day is called a** tide. It is high tide when water covers much of the shore by rising to its highest level. It is low tide when water falls to its loWest level and recedes from the shore.
- **Statement 2 is correct :** The **strong gravitational pull exerted by the Sun and the Moon** on the Earth's surface causes the tides. The water of the Earth closer to the Moon gets pulled under the influence of the Moon's gravitational force and causes high tide.
- **Statement 3 is incorrect :** During the full Moon and new Moon days, the Sun, the Moon and the Earth are in the same line and the tides are highest. These tides are **called spring tides. (Not Neap tides)**

NEAP TIDES

When the Moon is in its first and last quarter the ocean water gets drawn in **diagonally opposite directions** by gravitational pull of Sun and Moon resulting in low tides. These tides are **Neap tides**

7th NCERT page no : 35

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

36. Consider the following pairs

Region	**Grassland**
1. Argentina	Llanos
2. Australia	Down
3. South Africa	Veld
4. Venezuela	Pampas

Which of the above pairs are correctly matched?

a) 1 and 2 only
b) 2 and 4 only
c) 3 and 4 only
d) 2 and 3 only

Ans : D

Explanation

Grasslands are known **by different names in different regions.**

- Tropical Grasslands
  - East Africa- Savanna
  - Brazil- Campos
  - **Venezuela- Llanos**
- Temperate Grasslands
  - **Argentina - Pampas**
  - North America - Prairie
  - **South Africa - Veld**
  - Central Asia- Steppe
  - **Australia- Down**

7th NCERT page no : 44

37. Consider the following statements regarding the Mediterranean region

1. Mediterranean region experiences wet summer and dry winter
2. It's unique feature is that the Mediterranean vegetation is found only in the areas around the Mediterranean Sea in Europe, Africa and Asia,
3. These regions are known as 'Orchards of the world'

Which of the statements given above is/are INCORRECT?

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

Ans : A

Explanation

- **Statement 1 is incorrect :** These regions are marked for **hot dry summers and mild rainy winters**
- **Statement 2 is incorrect :** Mediterranean vegetation is **mostly found in the areas around the Mediterranean sea in Europe, Africa and Asia** .This kind of vegetation is also **found outside the**

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

actual Mediterranean region in California in the USA, south West Africa, south Western South America and South West Australia.

- **Statement 3 is correct :**Citrus fruits such as **oranges, figs, olives and grapes** are commonly cultivated here. Mediterranean regions are known as '**Orchards of the world'** for their fruit cultivation.

7th NCERT page no : 42

38. Consider the following

Layers of atmosphere	**Associated phenomena/Events**
1. Mesosphere	A. Helps in Radio transmission
2. Stratosphere	B. Meteorites burn up in this layer on entering from the space
3. Troposphere	C. Ideal conditions for flying aeroplanes
4. Thermosphere	D. Almost all the weather phenomena occur in this layer

Select the correct answer using the codes given below

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

Ans : B

Explanation

- **Troposphere:** This layer is the most important layer of the atmosphere. Its average height is 13 km. The air we breathe exists here. **Almost all the weather phenomena like rainfall, fog and hailstorm occur in this layer.**
- **Stratosphere:** This layer is almost free from clouds and associated weather phenomenon, **making conditions most ideal for flying aero planes**.
- **Thermosphere:** In thermosphere temperature rises very rapidly with increasing height. Ionosphere is a part of this 80-400 km. This layer helps in **radio transmission**. In fact, **radio waves transmitted from the Earth are reflected back to the Earth by this layer**.
- **Mesosphere:** This is the third layer of the atmosphere. It lies above the stratosphere. It extends up to the height of 80 km. **Meteorites burn up in this layer on entering from the space**

7th NCERT page no : 22

39. Consider the following statements with respect to the Prairies (Temperate grasslands) of North America

1. The Prairies are bound by the Rocky Mountains on the West and the Great Lakes on the East
2. It is also known as "Granaries of the world" due to the huge surplus of Rice production
3. These grasslands were once inhabited by "Red Indians"

Which of the statements given above is/are correct?

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

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

d) 1, 2 and 3

Ans : C

Explanation

- The temperate grasslands of North America are known as the Prairies.
- **Statement 1 is correct:** The Prairies are **bound by Rocky Mountains in the West and the Great Lakes in the East**. Prairies cover parts of United States and parts of Canada.
- **Statement 2 is incorrect :** It is also known as "Granaries of the world" due to the huge surplus of **Wheat (not rice) production**
- **Statement 3 is correct :**The grasslands of Prairies were the **home of native Americans often "Red Indians"**. They were the actual habitant of the continent

7th NCERT page no : 65,66 and 67

40. Which of the following statements is correct regarding 'Chinook', a local wind ?

a) It is a hot and dry wind which blows strongly over the Northern Plains of India

b) It is a cold and dry wind which blows in Spain and France from North-West to South-East.

c) It is a dusty, dry and warm local wind, which develops on the leeward side of the Alps mountain ranges.

d) It is a hot wind, which moves down the Eastern slopes of the Rocky Mountains in the U.S.A and Canada.

Ans : D

Explanation

- **Chinook :**It is a **hot wind**, which **moves down the Eastern slopes of the Rocky Mountains in U.S.A. and Canada**. It is a hot wind that **blows in winter** and therefore raises the temperature within a short time. This increase in temperature **results in the melting of snow, making pasture land available for grazing of animals.**
- **Option A :Loo is a hot and dry wind** which blows strongly over the Northern plains of India. They **dominate during early summer** in the months of March to May and **create heat waves like condition** in Northern India and adjoining parts
- **Option B : Mistral** It is a cold and dry wind which blows in the **Spain and France** from North-West to South-East direction, mostly occur during winter months.
- **Option C :Foehn is a dusty, dry and warm local wind**, which develops on the leeward side of the Alps mountain ranges.

7th NCERT page no : 66

41. In a Desert, depressions are formed when the wind blows away the sands. In these depressions, underground water reaches the surface to form a water body. Since these areas are fertile, people may settle around these water bodies and grow date palms and other crops. In the Sahara, these areas support settled population.

The above description refers to which of the following?

a) Yardangs

b) Oasis

c) Ranches

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

d) Playas

Ans : B

Explanation

- **Oasis :** Depressions are formed when the **wind blows away the sands**. In the depressions where underground water reaches the surface, **an oasis is formed**. These areas are fertile. People may settle around these water bodies and grow date palms and other crops. Sometimes the oasis may be abnormally large. Tafilalet Oasis in Morocco is a large oasis with an area of about 13,000 sq.km.
- **Yardangs:** Yardangs are a steep-sided irregular ridge of sand lying in the direction of the prevailing wind. They are formed by the dual action of wind abrasion by dust and sand, and deflation which is the removal of loose material .Wind abrasion excavates the bands of softer rocks into long, narrow corridors, separating the steep-sided, over-hanging ridges of hard rocks, called yardangs.
- **Playas** : A playa is a **dry, vegetation-free, flat area at the loWest part of an undrained desert basin**. It is a location where ephemeral lakes form during wet periods and is underlain by stratified clay, silt, and sand, and commonly soluble salts.
- **Ranches :** A ranch is an area of land, including various structures, used **primarily for the practice of ranching(**the practice of raising grazing livestock such as cattle or sheep for meat or wool)

7th NCERT page no : 73

42. Consider the following statements

1. As the amount of moisture decreases, the size of trees and their density reduces
2. The vegetation of dry areas has leaves with thorny and waxy surface to reduce the loss of moisture through transpiration.
3. Deciduous trees do not shed their leaves simultaneously in any season of the year

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 : A

Explanation

- The **growth of vegetation depends primarily on temperature and moisture**. The major vegetation types of the world are grouped as forests, grasslands, scrubs and tundra.
- **Statement 1 is correct :**In areas of heavy rainfall, huge trees may thrive. The forests are thus associated with areas having abundant water supply. **As the amount of moisture decreases the size of trees and their density reduces**.
- **Statement 2 is correct** Short stunted trees and grasses grow in the regions of moderate rainfall forming the grasslands of the world. **Thorny shrubs and scrubs grow in dry areas** of low rainfall. In such areas plants **have deep roots and leaves with thorny and waxy surface reduce loss of moisture through transpiration.** Tundra vegetation of cold Polar Regions comprise of mosses and lichens.

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

- **Statement 3 is incorrect : Forests are broadly classified** as evergreen and deciduous **depending on when their trees shed their leaves**
- Evergreen trees do not shed their leaves simultaneously in any season of the year
- **Deciduous trees shed their leaves in a particular season** to conserve loss of moisture through transpiration

8th NCERT Page no : 18 and 19

43. Which of the following is/are plantation crops?

1. Cashew
2. Coffee
3. Banana
4. Cotton
5. Sugarcane

Select the correct answer using the codes given below

a) 2, 3 and 5 only
b) 2, 3, 4 and 5 only
c) 1, 2, 3 and 5 only
d) 1, 2, 3, 4 and 5

Ans : D

Explanation

- The term plantation crop refers to those crops which are **cultivated on an extensive scale**
- Plantation**s** are a **type of commercial farming** where s**ingle crop of tea, coffee, sugarcane, cashew, rubber, banana or cotton are grown.**The term plantation crop refers to those crops which are cultivated on an extensive scale
- **Large amount of labour and capital** are required.
- The produce may be processed on the farm itself or in nearby factories. The **development of a transport network is thus essential for such farming.**
- **Major plantations are found in the tropical regions** of the world. Rubber in Malaysia, coffee in Brazil, **tea in India and Sri Lanka** are some examples.
- These are **high value commercial crops of greater economic importance** and play a vital role in improving Indian economy, especially **in view of their export potential and employmentgeneration.**

8th NCERT PAGE NO : 42

44. Consider the following statements with respect to The convention on International trade in Endangered species of Wild fauna and flora (CITES)

1. It is an international consensus among Governments and Civil society organisations.
2. It aims to conserve only those species which are declared 'endangered' under The International Union for Conservation of Nature (IUCN) Red list.

Which of the statements given above is/are INCORRECT?

a) 1 only
b) 2 only

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

c) Both 1 and 2
d) Neither 1 nor 2
Ans : C
Explanation
Both statements are incorrect

- Human activities in **several parts of the world have disturbed the natural habitats** of many species. Due to **indiscriminate killings**, several birds and animals have either become extinct or are on the verge of extinction.
- Due to this, an **international convention CITES has been established** that lists several species of animals and birds in which trade is prohibited.
- **Statement 1 is incorrect :**CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an **international agreement between governments**. (It is **not a consensus** among Governments and Civil society organisation
- **Statement 2 is incorrect :**It aims to ensure that **international trade** in specimens of wild animals and plants **does not threaten their survival**.
- It **does not aims to conserve only those species which are declared 'endangered'** underThe International Union for Conservation of Nature (IUCN) Red list.
- Rather it has **listed species in three CITES Appendices**. The species are grouped in the Appendices **according to the level of threat faced by them** due to international trade.
- Roughly **5,000 species of animals and 28,000 species of plants are protected**. Bears, dolphins, cacti, corals, orchids and aloes are some examples

8th NCERT PAGE NO: 21

45. Biogas which is obtained by decomposition of organic waste is essentially a mixture of

a) Methane and Hydrogen
b) Methane and Carbon dioxide
c) Ethane and Methane
d) Methane and oxygen
Ans : B
Explanation

- Organic waste such as **dead plant and animal material, animal dung and kitchen waste can be converted into a gaseous fuel called biogas**.
- The organic waste is **decomposed by bacteria in biogas digesters** to emit biogas which is essentially a **mixture of methane and carbon dioxide**.
- Biogas is an excellent **fuel for cooking and lighting** and produces huge amount of organic manure each year.

8th NCERT PAGE NO : 36

46. Consider the following pairs regarding the local names of shifting cultivation across the world

LIST-I	LIST-II
1. Milpa	A. Malaysia
2. Jhumming	B. Mexico
3. Ladang	C. Brazil

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

4. Roca D. India

Select the correct answer using the codes given below

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

Ans : A

Explanation

Shifting cultivation is **known by different names in different parts of the world**

- Jhum - North-East India
- Milpa - Mexico
- Roca - Brazil.
- Ladang - Malaysia

- Shifting cultivation is practised in the **thickly forested areas of Amazon basin, tropical Africa, parts of SouthEast Asia and NorthEast India.**
- These are the **areas of heavy rainfall and quick regeneration of vegetation**.
- A plot of land is cleared by felling the trees and burning them. The ashes are then mixed with the soil and **crops like maize, yam, potatoes and cassava are grown**.
- **After the soil loses its fertility, the land is abandoned** and the cultivator moves to a new plot.
- Shifting cultivation is **also known as 'slash and burn' agriculture.**

8th NCERT PAGE NO : 41

47. Which of the following statements is correct regarding shelter belts ?

a) Shelter belts are flat steps made on the steep slopes to reduce soil erosion

b) Shelter belts are rows of trees planted in coastal or dry regions to check wind movement and to protect soil cover.

c) Shelter belts are water harvesting structures in dry areas.

d) Shelter belts are alternate rows of trees planted to protect the soil from rain wash

Ans : B

Explanation

- **Shelter belts :** In the **coastal and dry regions**, rows of trees are planted to **check the wind movement** to protect soil cover
- A shelterbelt is defined as a **barrier of trees and shrubs that provides protection from wind** and storm and decreases erosion

BENEFITS

- Shelterbelt trees **help to reduce soil erosion** by **protecting against wind** and the elements and reducing the impact that severe weather has on the soil by providing much needed shelter.
- Shelterbelts can also provide **protection to the shoreline** by protecting against the impact of salt carried by the wind

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

- **Water quality management** through filtering function
- Shelterbelts can be used to effectively **manage wastewater**. The trees essentially become **storage vessels for the pollutants** within wastewater that would otherwise end up polluting the nearest stream, river or lake.
- They can **enable better water quality** by extracting key nutrients from groundwater.

- **Option A** is related to **terrace farming**
- **Terrace farming :**Broad flat steps or **terraces are made on the steep slopes** so that flat surfaces are available to grow crops. They **reduce surface run-off** and soil erosion

- **Option D** is related to **intercropping**
- **Intercropping:** Different **crops are grown in alternate rows** and are sown at different times to **protect the soil from rain wash**

8th NCERT PAGE NO : 14

48. Consider the following pairs with respect to methods involved in the extraction of minerals

LIST-I	**LIST-II**
1. Open cast mining	A. Boring deep wells to take out minerals from far below the Earth's surface
2. Drilling	B. Digging out minerals near the surface
3. Shaft mining	C. Minerals at shallow depths are taken out by removing the Surface layer
4. Quarrying	D. Deep bores to reach mineral deposits at great depth.

Select the correct answer using the codes given below

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

Ans : D

Explanation

- The process of **taking out minerals from rocks buried under the Earth's surface** is called **mining**.
- Minerals that lie at **shallow depths** are taken out **by removing the surface layer**, this is known as **open-cast mining**.
- **Deep bores called shafts** have to be made to reach mineral deposits that lie at great depths. This is called **shaft mining**.
- Petroleum and natural gas occur **far below the Earth's surface.** Deep wells are bored to take them out, this is called **drilling**
- Minerals that lie **near the surface are simply dug out**, by the process known as **quarrying**.

8th NCERT Page no : 25

49. Consider the following pairs

MINERAL		**LEADING PRODUCER**
1. Tin	-	Australia
2. Iron-ore	-	South America

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

3. Gold - Africa
4. Bauxite - Asia

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

a) 1, 3 and 4 only
b) 2 and 4 only
c) 3 only
d) 1, 2, 3 and 4.

Ans : C

Explanation

- Asia: China and India have large iron ore deposits. **The continent produces more than half of the world's tin .**China, Malaysia and Indonesia are among the world's leading tin producers. Asia also has deposits of manganese, bauxite, nickel, zinc and copper.
- **Europe**: **Europe is the leading producer of iron-ore in the world**. The countries with large deposits of iron ore are Russia, Ukraine, Sweden and France. Minerals deposits of copper, lead, zinc, manganese and nickel are found in Eastern Europe and European Russia.
- **South America**: Brazil is the largest producer of high grade iron-ore in the world. **Chile and Peru are leading producers of copper**. Brazil and Bolivia are among the world's largest producers of tin. **Mineral oil is found in Venezuela, Argentina, Chile, Peru and Columbia.**
- **Africa:** Africa is rich in mineral resources. It is the **world's largest producer of diamonds, gold and platinum**. South Africa, Zimbabwe and Zaire produce a large portion of the world's gold. The **other minerals found** in Africa are copper, iron ore, chromium, uranium, cobalt and bauxite. **Oil is found in Nigeria, Libya and Angola.**
- **Australia** : Australia is the **largest producer of bauxite in the world**. It is also rich in copper, lead, zinc and manganese. **Kalgoorlie and Coolgardie areas of Western Australia** have the largest deposits of gold.

8th NCERT Page no : 26

50. Consider the following statements with respect to soil formation

1. Parent rock determines the colour, texture, chemical properties and mineral content of the soil.
2. Sub soil below the top layer is highly rich in humus content.
3. Time is a major determinant of thickness of soil profile.

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.

Ans : C

Explanation

The **thin layer of grainy substance covering the surface** of the Earth is **called soil**. It is closely linked to land. **Landforms determine the type of soil**. Soil is made up of organic matter, minerals and weathered rocks found on the Earth. This happens through the process of weathering.

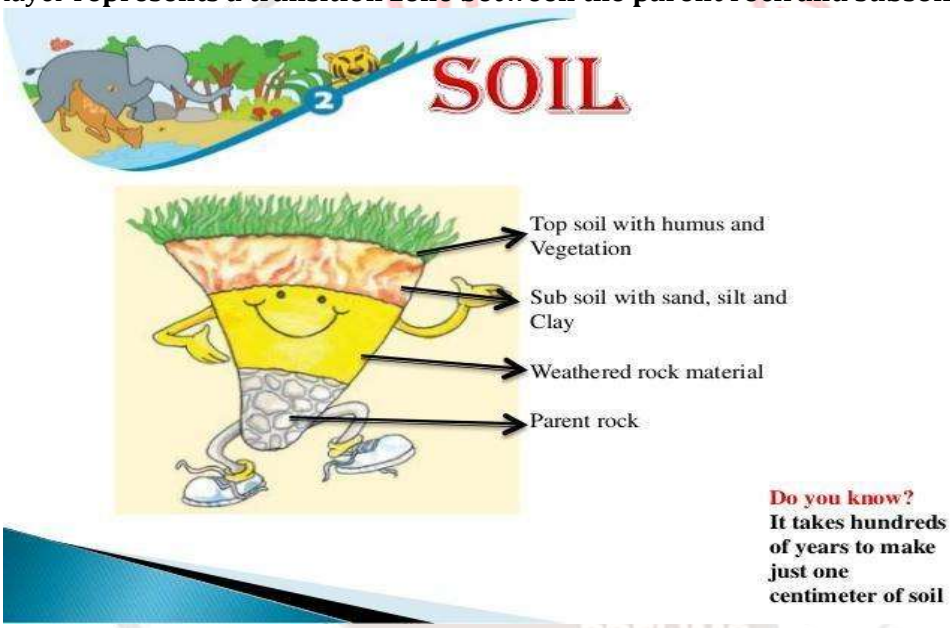
SOIL PROFILE

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

The soil is **found in layers**, which are arranged during the formation of soil. These layers called **horizons**, the sequence of layers is the soil profile. The layers of soil can easily be observed by their colour and size of particles. The **main layers of the soil are topsoil, subsoil, weathered rock material and the parent rock**.

Each layer has its own characteristics.

- **Topsoil :**It is also **called the humus layer**, which **is rich in organic material**. This layer consists of decomposed material and organic matter. **so statement 2 is incorrect**
- **Subsoil** : Just below the topsoil lies another layer called subsoil. It consist of sand, silt and clay
- **Weathered rock material :** It contains **no organic matter** and made up of stones and rocks. This layer **represents a transition zone between the parent rock and subsoil**



FACTORS OF SOIL FORMATION

The major factors of **soil formation** are the nature of the parent rock and climatic factors. Other factors are **the topography, role of organic material and time** taken for the composition of soil formation.

- **Parent Rock :**Determines colour, texture, chemical properties mineral, content, permeability. **So statement 1 is correct**
- **Relief :** Altitude and slope, determine accumulation of soil
- **Climate :**Temperature, Rainfall influence rate of weathering and humus formation
- **Time :Determines thickness** of soil profile. **Sostatement 3 is correct**
- **Flora, Fauna and Micro-organism :**Affect the rate of humus formation

8th NCERT Page no : 13

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

51. Consider the following pairs with respect to methods of soil conservation

1. Contour barriers - Ploughing parallel to the contours of a hill slope to form a natural barrier for water to flow down the slope
2. Terrace Farming - Broad flat steps are made on the steep slopes to reduce surface Run-off and soil erosion
3. Mulching - Covering the surface of soil with a layer of organic matter to help the soil retain soil moisture

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

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

Ans : D

Explanation

Soil erosion and depletion are the major threats to soil as a resource. Both human and natural factors can lead to degradation of soils. Factors which lead to soil degradation are **deforestation, overgrazing, overuse of chemical feritilisers** or pesticides, rain wash, landslides and floods.
Some methods of soil conservation are listed below

- **Mulching**: The bare ground between plants **is covered with a layer of organic matter** like straw. It helps to **retain soil moisture.**
- **Contour barriers**: Stones, grass, soil are used to **build barriers along contours**. **Trenches are made** in front of the barriers to collect water. **So, 1st pair is incorrect**
- **Terrace farming**: Broad flat **steps or terraces are made on the steep slopes** so that flat surfaces are available to grow crops. They reduce surface run-off and soil erosion
- **Contour ploughing**: **Ploughing parallel to the contours of a hill slope** to form a natural barrier for water to flow down the slope

8th NCERT Page no : 14

52. Consider the following statements with respect to source rock and mineral distribution

1. In general, metallic minerals can be found only in the igneous rocks.
2. Mineral fuels like coal and petroleum are generally associated with sedimentary rock formations.

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

Distribution of Minerals

- Minerals **occur in different types of rocks**. Some are found in igneous rocks, some in metamorphic rocks while others occur in sedimentary rocks.

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

- **Statement 1 is incorrect** : Generally, **metallic minerals are found in igneous and metamorphic rock** formations that form large plateaus.
- Iron-ore in north Sweden, copper and nickel deposits in Ontario, Canada, iron, nickel, chromites and platinum in South Africa are examples of minerals found in igneous and metamorphic rocks.
- **Sedimentary rock formations** of plains and young fold mountains **contain non-metallic minerals like limestone**. Limestone deposits of Caucasus region of France, manganese deposits of Georgia and Ukraine and phosphate beds of Algeria are some examples.
- **Statement 2 is correct :**Mineral fuels such as **coal and petroleum** are also found in the **sedimentary strata.**

8th NCERT Page no : 26

53. Which of the following minerals is referred to as 'Buried Sunshine'?

a) Silver
b) Diamond
c) Coal
d) Petroleum

Ans : C

Explanation

- Coal is the most **abundantly found fossil fuel**. It is used as a domestic fuel, in industries such as iron and steel, steam engines and to generate electricity.
- Electricity from coal is called **thermal power**. The coal which we are using today **was formed millions of years ago when giant ferns and swamps got buried under the layers of Earth**. Coal is therefore referred to as **Buried Sunshine**.
- The **leading coal producers** of the world are **China, USA, Germany, Russia, South Africa and France.**
- The coal producing areas of India are **Raniganj, Jharia, Dhanbad and Bokaro** in Jharkhand

8th NCERT Page no : 31

54. Consider the following

1. Wind energy
2. Nuclear power
3. Hydel power
4. Solar energy
5. Biogas

Which of the above energy sources form a part of Non-Conventional sources of energy?

a) 1, 2, 4 and 5 only
b) 1, 2, 3 and 5 only
c) 2, 4 and 5 only
d) 2, 3, 4 and 5 only

Ans : A

Explanation

Non-conventional Sources of Energy

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

- The increasing **use of fossil fuels is leading to its shortage**. It is estimated that if the present rate of consumption continues, the reserves of these fuel will get exhausted
- Moreover, their use also causes environmental pollution. Therefore, **there is need for using non-conventional sources** such as

 Solar energy
 Wind energy
 Tidal energy
 Geothermal energy
 Tidal energy
 Biogas

✓ **Hydel power is a conventional source** of energy

- **Solar Energy**: Solar energy **trapped from the Sun can be used in solar cells** to produce electricity. The technology of utilising solar **energy benefits a lot of tropical countries** that are blessed with abundant Sun shine. Solar energy is also **used in solar heaters, solar cookers, solar dryers** besides being used for community lighting and traffic signals
- **Wind energy** : Wind is an inexhaustible source of energy. In modern time wind mills, the **high speed winds rotate the wind mill** which is connected to a generator to produce electricity.
- **Nuclear power:** Nuclear power is obtained from **energy stored in the nuclei of atoms of naturally occurring radioactive elements** like uranium and thorium.
- **Biogas** : Organic waste such as dead plant and animal material, animal dung and kitchen waste can be **converted into a gaseous fuel** called biogas. The **organic waste is decomposed by bacteria in biogas digesters** to emit biogas which is essentially a mixture of methane and carbon dioxide.
  8th NCERT Page no : 33

55. Consider the following statements with respect to Tidal energy

1. Tidal energy can be best harnessed by building dams at narrow openings of the sea.
2. During high tides the energy of the tides is used to turn the turbine installed in the dam to produce electricity
3. The Gulf of Kachchh in India has a huge potential for harnessing Tidal energy

Which of the statements given above is/are correct?

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

Ans : D

Explanation

- **Statement 1 is correct:** Energy generated from tides is called tidal energy. **Tidal energy can be harnessed by building dams at narrow openings of the sea**.
- **Statement 2 is correct**: During high tide the energy of the tides is **used to turn the turbine installed in the dam to produce electricity**. Russia, France and the Gulf of Kachchh in India have huge tidal mill farms

ADVANTAGES

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

- Tidal energy is the most sorted source of energy because the **energy it produces has lower cost and it's clean** because it **uses no fuel** so it's environment-friendly and no waste by-products are produced either
- Tidal energy is **not expensive to be conducted** and is easy to maintain compared to other forms of renewable energy sources
- Tidal **barrages provide protection against flooding** and land damage and tidal stream generators cause lesser or no harm to the natural landscape

DISADVANTAGES

- Tidal Energy requires a suitable site, where the **tides and tidal streams are consistently strong** and can be harnessed
- Chances of **increase in coastal erosion** where the tides are concentrated.
- **Threat to marine animals** like fish and other sea-life **as they might get stuck in the barrage** or get sucked by the force of tidal turbine blades.

According to the study, while the Gulf of Kambhat and **Gulf of Kutch near Gujarat have an estimated potential of 7000 MW and 1200 MW,** respectively and even the Gangetic delta in Sunderbans of West Bengal has a potential of 100 MW.
https://www.livemint.com/Industry/n06vMuZgBwwenLBKXDwCQL/Is-tidal-energy-the-next-frontier-for-Indias-energy-securit.html

8th NCERT Page no : 36

56. Consider the following pairs with respect to Nuclear power plants in India and the states they are located in

LIST I		LIST II
1. Narora	**-**	**Rajasthan**
2. Tarapur	**-**	**Maharashtra**
3. Kaiga	**-**	**Uttar Pradesh**
4. Kalpakkam	**-**	**Tamil Nadu**

Which of the above given pairs is/are correctly matched?
a) 1 and 4 only
b) 2, 3 and 4 only
c) 4 only
d) 2 and 4 only

Ans : D

Explanation

- Nuclear power is **obtained from energy stored in the nuclei of atoms** of naturally occurring radio active elements like uranium and thorium.

- These fuels **undergo nuclear fission in nuclear reactors** and emit power. The greatest producers of nuclear power are USA and Europe.
- The nuclear power stations in India are located in
- **Kalpakkam in Tamilnadu**
- Tarapur in Maharastra

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

- RanapratapSagar near Kota in Rajasthan
- **Narora in Uttar Pradesh** and
- **Kaiga in Karnataka**.

8th NCERT Page no : 34

57. Consider the following statements

1. Natural vegetation and wildlife exist only in the narrow zone of contact between the lithosphere, hydrosphere and atmosphere.
2. Wildlife includes animals, birds, insects as well as the aquatic life forms.

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 : C

Explanation

- **Statement 1 is correct:** Natural vegetation and wildlife **exist only in the narrow zone of contact between the lithosphere, hydrosphere and atmosphere** Which is called **biosphere**.
- In the biosphere **living beings are inter-related and interdependent on each other** for survival. This **life supporting system** is known as the ecosystem.
- **Vegetation and wildlife are valuable resources**. Plants provide us with timber, give shelter to animals, produce oxygen we breathe, protects soils so essential for growing crops, **act as shelter belts, help in storage of underground water etc**
- **Statement 2 is correct** :**Wildlife includes animals, birds, insects as well as the aquatic life forms.**
  - They provide us milk, meat, hides and wool. Insects like bees provide us honey, **help in pollination of flowers** and have an important role to play as decomposers in the ecosystem.
  - **The birds feed on insects and act as decomposers as well**.
  - **Vulture** due to its ability to feed on dead livestock is a scavenger and considered a **vital cleanser of the environment**. So animals big or small, all are integral to maintain balance in the ecosystem.

8th NCERT Page no : 17

58. Consider the following statements regarding the deposits of radioactive elements in India

1. In India, Rajasthan and Jharkhand have large deposits of Thorium
2. Uranium is found in large quantities in the Monazite sands of Kerala.

Which of the statements given above is/are INCORRECT?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Ans : C

Explanation

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

Both statement are incorrect

- Nuclear power is **obtained from energy stored in the nuclei of atoms of naturally occurring radio active elements like uranium and thorium**.

- These fuels **undergo nuclear fission in nuclear reactors and emit power**. The greatest producers of nuclear power are USA and Europe
- **Statement 1 is incorrect:** In India **Rajasthan and Jharkhand have large deposits of Uranium**.
- **Statement 2 is incorrect : Thorium is found in large quantities in the Monozite sands of Kerala**. The nuclear power stations in India are located in Kalpakkam in Tamilnadu, Tarapur in Maharastra, RanapratapSagar near Kota in Rajasthan, Narora in Uttar Pradesh and Kaiga in Karnataka.

8th NCERT Page no : 34

59. Consider the following pairs

1. Pisciculture A. Cultivation of grapes
2. Sericulture B. Rearing of honey bees
3. Viticulture C. Rearing of silk worms
4. Apiculture D. Breeding of fish in specially constructed tanks and ponds.

Select the correct answer using the codes given below

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

Ans : B

Explanation

- Agriculture is the **science and art of cultivation** on the soil, raising crops and rearing livestock. It is also called farming
- **Sericulture :**Commercial **rearing of silk worms**. It may supplement the income of the farmer.
- **Pisciculture :Breeding of fish** in specially constructed tanks and ponds
- **Viticulture :** Cultivation of **grapes**
- **Horticulture :** Growing **vegetables, flowers and fruits** for commercial use
- **Apiculture :** Rearing of **honey bees**

8th NCERT Page no : 41

60. Consider the following statements with respect to organic farming

1. Usage of organic manure and natural pesticides instead of chemical fertilizers and pesticides.
2. Genetic modification is done to increase the yield of the crop
3. It aims to protect the long term fertility of soil by encouraging soil biological activity.

Which of the statements given above is/are correct?

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

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

d) 1, 2 and 3.

Ans : B

Explanation

- Organic farming is a **method of farming system** which primarily aimed at cultivating the land and raising crops in such a way, as **to keep the soil alive and in good health** by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with **beneficial microbes (biofertilizers**) to release nutrients to crops for increased sustainable production in an eco friendly pollution free environment.
- **Statement 1 is correct** : In this type of farming, **organic manure and natural pesticides are used instead of chemicals**.
- **Statement 2 Is incorrect** :**No genetic modification is done** to increase the yield of the crop.

BENEFITS

- **Statement 3 Is correct** : Protecting the **long term fertility of soils by maintaining organic matter levels, encouraging soil biological activity**, and careful mechanical intervention
- Nitrogen self-sufficiency through the **use of legumes and biological nitrogen fixation**, as well as effective **recycling of organic materials** including crop residues and livestock manures
- Weed, disease and pest control **relying primarily on crop rotations, natural predators, diversity, organic manuring, resistant varieties** and limited (preferably minimal) thermal, biological and chemical intervention
- The **extensive management of livestock**, paying full regard to their evolutionary adaptations, behavioural needs and animal welfare issues with respect to nutrition, housing, health, breeding and rearing

http://agritech.tnau.ac.in/org_farm/orgfarm_introduction.html

8th NCERT Page no : 42

61. Consider the following statements regarding subsistence farming

1. In primitive subsistence agriculture, the farmer cultivates a small plot of land using simple tools and more labour to cultivate more than one crop annually
2. Intensive subsistence agriculture includes shifting cultivation and nomadic herding.

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

- Subsistence farming is **practised to meet the needs of the farmer's family**. Traditionally, **low levels of technology and household labour** are used to produce on small output.
- Subsistence farming can be **further classified as intensive subsistence and primitive subsistence farming.**

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

- **Statement 1 is incorrect** : In **intensive subsistence agriculture the farmer cultivates a small plot of land using simple tools and more labour**. Climate with large number of days with Sunshine and fertile soils permit growing of **more than one crop annually on the same plot**.
- **Rice is the main crop**. Other crops include wheat, maize, pulses and oilseeds.
- Intensive subsistence **agriculture is prevalent in the thickly populated areas of the monsoon regions of south, southEast and East Asia.**
- **Statement 2 is incorrect :** Primitive subsistence agriculture includes shifting cultivation and nomadic herding.
- **Shifting cultivation** : A plot of land is **cleared by felling the trees and burning them**. The ashes are then mixed with the soil and crops like maize, yam, potatoes and cassava are grown. After the **soil loses its fertility**, the land is abandoned and the cultivator moves to a new plot.
- **Nomadic herding** : In this type of farming, **herdsmen move from place to place with their animals for fodder and water,** along defined routes. This type of movement arises in response to **climatic constraints** and terrain.

8th NCERT Page no : 42

62. In which of the following regions, Nomadic herding is predominantly practised?

a) Thickly forested areas of Amazon basin, tropical Africa, parts of South East Asia and North East India

b) Temperate grasslands of North America, Europe and Asia.

c) Thickly populated areas of the monsoon regions of south, southEast and East Asia.

d) Semi-arid and arid regions of Sahara, Central Asia and some parts of India

Ans : D

Explanation

- Nomadic herding is **practised in the semi-arid and arid regions of Sahara, Central Asia and some parts of India**, like Rajasthan and Jammu and Kashmir.
- In this type of farming, **herdsmen move from place to placewith their animals** for fodder and water, along defined routes.
- This type of **movement arises in response to climatic constraints and terrain**.
- **Sheep, camel, yak and goats are most commonly reared**. They provide milk, meat, wool, hides and other products to the herders and their families.

8th NCERT Page no : 43

63. Consider the following statements with respect to commercial grain farming

1. It is practised in sparsely populated regions with large farm area spreading over hundreds of hectares.

2. Since it is practised predominantly in temperate grasslands, severe winters restrict the growing season and only a single crop can be grown annually

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

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

d) Neither 1 nor 2
Ans : C

Explanation

- In commercial farming **crops are grown and animals are reared for sale in market**. The **area cultivated and the amount of capital used is large.** Most of the work is done by machines.
- Commercial farming **includes commercial grain farming, mixed farming and plantation agriculture**
- In **commercial grain farming crops are grown for commercial purpose**.
- **Wheat and maize** are common commercially grown grains
- Major areas where commercial grain farming is **practised are temperate grasslands of North America, Europe and Asia**.
- **Both Statement 1 and 2 are correct** : These areas are **sparsely populated with large farms** spreading over hundreds of hectares. **Severe winters restrict the growing season** and only a single crop can be grown.

8th NCERT Page no : 43

64. Consider the following statements with respect to favourable conditions for coffee cultivation

1. It requires cool climate
2. It requires well drained loamy soil
3. Hill slopes are more suitable for its growth

Which of the statements given above is/are correct?

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

Explanation

- **Plantations are** a **type of commercial farming** where single crop of tea, coffee, sugarcane, cashew, rubber, banana or cotton are grown. Large amount of labour and capital are required
- Coffee production in **India is dominated in the hill tracts of South Indian states**, with Karnataka accounting for 71%, followed by Kerala with 21% and Tamil Nadu (5% of overall production with 8,200 tonnes).
- **Requirements for coffee cultivation**

 Statement 1 is incorrect : Coffee requires **warm and wet climate** (It does not require cool climate)

 well-drained loamy soil

➢ **Loamy soil** is composed mostly of **sand, silt, and a smaller amount of clay**. It generally contain **more nutrients, moisture, and humus than sandy soils**, have better drainage and infiltration of water and air than silt and clay-rich soils.

 Hill slopes are more suitable for growth of this crop.

8th NCERT Page no : 45

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

65. Which of the following crops require high temperature and high rainfall for its cultivation?

1. Jute
2. Maize
3. Wheat
4. Rice

Select the correct answer using the codes given below

a) 2 and 4 only
b) 1 and 4 only
c) 1 and 3 only
d) 1, 2 and 4 only.

Ans : B

Explanation

- **Rice:** Rice is the major food crop of the world. It is the staple diet of the tropical and sub-tropical regions. Rice needs **high temperature, high humidity and rainfall**. It grows best in **alluvial clayey soil**, which can retain water. China leads in the production of rice followed by India, Japan, Sri Lanka and Egypt. In favourable climatic conditions as in West Bengal and Bangladesh two to three crops are grown in a year.
- **Wheat:** Wheat requires **moderate temperature and rainfall** during growing season and bright Sunshine at the time of harvest. It **thrives best in well drained loamy soil.** Wheat is grown extensively in USA, Canada, Argentina, Russia, Ukraine, Australia and India. In India it is grown in winter.
- **Maize**: Maize **requires moderate temperature, rainfall and lots of Sunshine**. It needs well-drained fertile soils. Maize is grown in North America, Brazil, China, Russia, Canada, India, and Mexico.
- **Jute was also known as the 'Golden Fibre'**. It grows well on alluvial soil **and requires high temperature, heavy rainfall and humid climate.** This crop is grown in the tropical areas. India and Bangladesh are the leading producers of jute.

8th NCERT Page no : 44

66. Consider the following statements with respect to distribution of population across the world

1. Almost three-quarters of the world's people live in two continents, Asia and Africa
2. Many more people live north of the Equator than south of the Equator
3. More than 90 per cent of the world's population lives in about 30 per cent of the land surface.

Which of the statements given above is/are correct?

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

Ans : D

Explanation

- The way in which people are spread across the Earth surface is known as **the pattern of population distribution**.

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

- **Statement 3 is correct** : More than **90 per cent of the world's population lives in about 30 percent of the land surface.** The distribution of population in the world is extremely uneven.
- Some areas are very crowded and some are sparely populated. The crowded areas are south and south East Asia, Europe and north Eastern North America. **Very few people live in high latitude areas, tropical deserts, high mountains and areas of equatorial forests.**
- **Statement 2 is correct** :**Many more people live north of the Equator** than south of the Equator.
- **Statement 1 is correct** : Almost three-quarters of the world's people live in two continents Asia and Africa.
- Sixty per cent of the world's people stay in just 10 countries. All of them have more than a 100 million people.

8th NCERT Page no : 67

67. Which of the following is/are prominent mineral deposit regions in North America?

1. The Appalachians region
2. Canadian Shield region
3. Ruhr region
4. Western Cordilleras

Select the correct answer using the codes given below

a) 2 and 4 only
b) 1 and 2 only
c) 1, 2 and 4 only
d) 1, 2, 3 and 4

Ans : C

Explanation

- The **mineral deposits in North America are located in three zones**
- The **Canadian shield region** north of the Great Lakes .Iron ore, nickel, gold, uranium and copper are mined in this Region
- **The Appalachian region** and the mountain ranges of the West. coal is mined predominantly in this region.
- **Western Cordilleras** have vast deposits of copper, lead, zinc, gold and silver.
- **Ruhr region** which is **rich in coal and iron ore deposits** is situated in **European continent**.

8th NCERT Page no : 27

68. Consider the following statements regarding the Cotton textile Industry in India

1. The first successful mechanized textile mill was established in Ahmedabad
2. Mumbai is known as the 'Manchester 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 : D

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

Explanation

- The cotton textile industry is **one of the oldest industries in the world**. Till the industrial revolution in the 18th century, cotton cloth was made using hand spinning techniques (wheels) and looms.
- In **18th century power looms facilitated the development of cotton textile industry**, first in Britain and later in other parts of the world. Today India, China, Japan and the USA are important producers of cotton textiles
- **Statement 1 is incorrect** : The **first successful mechanized textile mill was established in Mumbai in 1854**. The warm, moist climate, a port for importing machinery, availability of raw material and skilled labour resulted in rapid expansion of the industry in the region
- **Statement 2 is incorrect :Ahmedabad**is located in Gujarat on the banks of the Sabarmati river. The first mill was established in 1859. It soon became the **second largest textile city** of India, after Mumbai. **Ahmedabad was therefore often referred to as the 'Manchester of India'.**

8th NCERT Page no : 59

69. Which of the following statements best describes 'Mixed farming'?

a) The practice of growing different crops in succession on the same land to preserve the productive capacity of the soil.
b) It is farming practice which involves planting two or more crops simultaneously in the same field
c) It is a type of farming which combines the system of producing crops and maintaining livestock
d) None of the above

Ans : C

Explanation

- In **mixed farming** the land is **used for growing food and fodder crops and rearing livestock**.
- It is **practised in Europe, Eastern USA, Argentina, southEast Australia**, New Zealand and South Africa
- Mixed farming is a type of farming which involves both the growing of crops and the raising of livestock. Though at **first it mainly served domestic consumption, countries such as the United States and Japan now use it for commercial purposes**
- The **cultivation of crops alongside the rearing of animals for meat or milk** defines mixed farming.

 Example : A mixed farm may grow cereal crops such as wheat or rye and also keep cattle, sheep, pigs or poultry. Often the **dung from the cattle is used to fertilize the cereal crops.**

8th NCERT Page no : 43

70. Consider the following statements regarding Minerals

1. They are created by natural processes without any human interference.
2. A non-ferrous metallic mineral does not contain iron
3. Limestone, mica and gypsum are examples for non-ferrous metallic minerals

Which of the statements given above is/are correct?

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

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

d) 1, 2 and 3.

Ans : B

Explanation

- A **naturally occurring substance that has a definite chemical composition** is a **mineral**.
- Minerals are **not evenly distributed over space**. They are concentrated in a particular area or rock formations. Some minerals are found in areas which are not easily accessible such as the Arctic ocean bed and Antarctica.
- **Statement 1 is correct** : Minerals are formed in different types of geological environments, under varying conditions. **They are created by natural processes without any human interference.** They can be identified on the basis of their physical properties such as colour, density, hardness and chemical property such as solubility.
  On the basis of composition, **minerals are classified mainly as metallic and non-metallic minerals**
- Metallic minerals contain metal in raw form. Metals are hard substances that conduct heat and electricity and have a characteristic lustre or shine. Iron ore, bauxite, manganese ore are some examples.
- **Metallic minerals may be ferrous or non-ferrous**. Ferrous minerals like iron ore, manganese and chromites contain iron.
- **Statement 2 is correct :A non-ferrous mineral does not contain iron** but may contain some other metal such as gold, silver, copper or lead.
- **Statement 3 is incorrect :**Non-metallic minerals do not contain metals. **Limestone, mica and gypsum are examples of such minerals.** The mineral fuels like coal and petroleum are also non-metallic minerals.
  8th NCERT Page no : 25

71. Consider the following statements regarding Acute Encephalitis Syndrome (AES)

1. AES affects the central nervous system, mostly in children and young adults.
2. Bacteria and Fungi are the only causative agents in AES cases.

Which of the above statements is /are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Answer:A

Explanation:

Statement 1 is correct.AES **affects central nervous system**, mostly in children and young adults. It starts with a high fever, then **hampers neurological functions** causing mental disorientation, seizure, confusion, delirium, coma.

Statement 2 is incorrect.Viruses are the main causative agents in AES cases, although other sources such as **bacteria, fungus, parasites, spirochetes, chemicals, toxins and noninfectious agents** have also been reported over the past few decades.

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

- **Uttar Pradesh government** has launched a massive campaign called 'Dastak' to eradicate deadly Acute Encephalitis Syndrome (AES) and Japanese Encephalitis (JE) diseases.
- It is a **state-wide campaign against communicative diseases** which will run from 1st to 31st July 2019.
- This campaign is part of a comprehensive Social and Behaviour Change Communication(SBCC) strategy embraced by state government.

Why this question?

- Bihar has been struggling with an outbreak of Acute Encephalitis Syndrome (AES) since the beginning of June. More than 100 children have died so far.
- Such outbreaks have happened annually during the summer months in the same districts since 1995.The disease is also known as **'Chamki fever'.**
- According to the National Centre for Disease Control officials, Acute Encephalitis Syndrome (AES) outbreaks in Bihar have been reported since 1995.
- This year the main cause of death in most cases has been alleged to **hypoglycemia (low blood sugar level).**

Source:
https://www.nhp.gov.in/disease/communicable-disease/acute-encephalitis-syndrome
https://www.thehindu.com/news/national/a-hundred-deaths-and-no-answers/article28102769.ece

72. With reference to the Crime & Criminal Tracking Network System (CCTNS),consider the following statements.

1. CCTNS aims at creating an integrated system for enhancing the efficiency and effectiveness of policing at the Police Station level.
2. It is a Mission Mode Project (MMP) under the National e-Governance Plan of the Government of India.

Which of the above statements is /are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Answer:C

Explanation: Both the statements are correct.

- CCTNS aims at creating a comprehensive and integrated system for enhancing the efficiency and effective policing at all levels and especially at the Police Station level through adoption of principles of e-Governance, and creation of a nationwide networked infrastructure for evolution of IT-enabled state of- the-art tracking system around "investigation of crime and detection of criminals" in real time, which is a critical requirement in the context of the present day internal security scenario.
- The Crime and Criminal Tracking Network Systems (CCTNS) was conceptualized by the **Ministry of Home Affairs** in detailed consultation with all stakeholders and is being implemented as a "Mission Mode Project (MMP)" since 2009 under National e-Governance Plan.

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

What is National e-Governance Plan ?

- The National e-Governance Plan is an initiative of the Government of India to make all government services available to the citizens of India via electronic media.
- NeGP was formulated by the Department of Electronics and Information Technology and Department of Administrative Reforms and Public Grievances.

Objectives:

- Provide Citizen Centric Police Services via a web portal
- Pan India search on National database of Crime & Criminal records
- Crime and Criminal reports at State and Center
- Computerization of Police Processes

Source:
http://vikaspedia.in/e-governance/national-e-governance-plan/mission-mode-projects/crime-criminal-tracking-network-and-systems

73. Palermo Protocol, sometimes seen in the news is related to which of the following

a) Eliminate or restrict the production and use of persistent organic pollutants.
b) Prevent, suppress and punish trafficking in human beings , especially women and children
c) An agenda for women's empowerment, an outcome of a World Conference convened by the United Nations.
d) Improve the banking sector's ability to deal with financial and economic stress and improve risk management.

Answer:B
Explanation: Statement b is correct.
Palermo Protocol

- These are the protocols adopted by the **UN on Transnational Organised Crimes** in 2000.
- There are 3 protocols i.e., one to stop trafficking in persons, especially women and children, second is on smuggling of migrants by land, sea, and air and last against the Illicit Manufacturing and Trafficking in Firearms, Their Parts and Components and Ammunition.
- It is being **monitored by the UN Office on Drugs and Crime.**

Statement a refers to Stockholm Convention
It Aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).
Statement c refers to Beijing Declaration and Platform for Action
The Platform for Action is an agenda for women's empowerment. It aims at accelerating the implementation of the Nairobi Forward-looking Strategies for the Advancement of Women and at

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

removing all the obstacles to women's active participation in all spheres of public and private life through a full and equal share in economic, social, cultural and political decision-making.

Statement d refers to Basel III Accord

Basel III (or the Third Basel Accord) is a global, voluntary regulatory framework on bank capital adequacy, stress testing and market liquidity risk.

Why this question?

India is placed on 'Tier 2' in human trafficking report.

Source:

https://www.thehindu.com/news/international/human-trafficking-within-borders-especially-challenging-issue-us-report/article28093804.ece

https://www.ohchr.org/en/professionalinterest/pages/protocoltraffickinginpersons.aspx

74. Consider the following statements regarding the United Nations Convention to Combat Desertification.

1. It is the sole legally binding international agreement linking environment and development to sustainable land management.
2. It is one of the outcomes of the Rio Earth Summit.
3. The Ministry of Environment, Forest and Climate Change is the nodal Ministry for this Convention.

Which of the above statements is /are correct?

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

Answer: D

Explanation : All the statements are correct.

- Established in 1994,It is the sole legally binding international agreement linking environment and development to sustainable land management.
- **Aim:** Its 197 Parties aim, through partnerships, to implement the Convention and achieve the Sustainable Development Goals. The end goal is to protect land from overuse and drought, so it can continue to provide food, water and energy.
- The 1992 Rio Earth Summit gave rise to the three Rio Conventions: the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention to Combat Desertification (UNCCD).
- The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
- **The Ministry of Environment, Forest and Climate Change** is the nodal Ministry for this Convention.

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

Why this question?

- The fourteenth meeting of the Conference of the Parties to the UN Convention to Combat Desertification (UNCCD COP 14) is set to take place in New Delhi, India.
- India took over the Presidency of the COP from China.

Source :
http://ddnews.gov.in/national/14th-conference-parties-unccd-begins-high-note-greater-noida
https://sustainabledevelopment.un.org/index.php?page=view&type=255&nr=19709

75. Consider the following statements regarding Financial Stability and Development Council (FSDC).

1. FSDC is a statutory body.
2. The Union Finance Minister of India is the Chairperson of the FSDC.
3. Funds are separately allocated to the Council for undertaking its activities like financial stability, financial sector development, inter–regulatory coordination, financial literacy, financial inclusion etc.

Which of the above statements is/ are correct?

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

Answer: C

Explanation: Statement 1 is incorrect.

- The Financial Stability and Development Council (FSDC) was constituted in December, 2010.
- The FSDC was set up to strengthen and institutionalise the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development.
- An apex-level FSDC **is not a statutory body.**

Statement 2 is correct.

- The Council is chaired by the **Union Finance Minister** and its members are **Governor, Reserve Bank of India**; Finance Secretary and/or Secretary, Department of Economic Affairs; Secretary, Department of Financial Services; Chief Economic Adviser, Ministry of Finance; Chairman, Securities and Exchange Board of India; Chairman, Insurance Regulatory and Development Authority and Chairman, Pension Fund Regulatory and Development Authority.
- It also includes the chairman of the Insolvency and Bankruptcy Board (IBBI).

Statement 3 is incorrect. The Council deals, inter-alia, with issues relating to financial stability, financial sector development, inter–regulatory coordination, financial literacy, financial inclusion

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

and macro prudential supervision of the economy, including the functioning of large financial conglomerates. **No funds are separately allocated** to the Council for undertaking its activities.

Why this question?

The 20th Meeting of the Financial Stability and Development Council (FSDC) was held under the Chairmanship of the Union Minister of Finance and Corporate Affairs, Smt. NirmalaSitharaman.

Source:

https://pib.gov.in/newsite/PrintRelease.aspx?relid=190533

76. Consider the following statements.

1. Bt cotton is India's first genetically modified crop, to be approved for commercialization.
2. India has the world's 2nd largest GM crop acreage after the USA.

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: B

Explanation: Statement 1 is correct.

- Plant genetic engineering methods were developed over 30 years ago, and since then, genetically modified (GM) crops or transgenic crops have become commercially available and widely adopted in many countries.
- In India, Bt cotton was approved by the Government of India in March 2002 as the first transgenic crop for commercial cultivation.

Statement 2 is incorrect

India has the world's 5th largest GM crop acreage after the USA, Brazil, Argentina, and Canada.

What is a GM Crop?

- A GM or transgenic crop is a plant that has a novel combination of genetic material obtained through the use of modern biotechnology.
- For example, a GM crop can contain a gene(s) that has been artificially inserted instead of the plant acquiring it through pollination.

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

- The resulting plant is said to be "genetically modified" although in reality all crops have been "genetically modified" from their original wild state by domestication, selection, and controlled breeding over long periods of time.

Why this question?
Over 1,000 farmers participated in a 'civil disobedience' movement in Maharashtra's AkoliJahagir village by sowing genetically modified HTBT cotton to protest the Centre's ban on GM crops.
Source:
https://www.google.com/amp/s/www.thehindubusinessline.com/news/maharashtra-farmers-defy-ban-to-plant-gm-cotton/article27766300.ece/amp/
http://www.isaaa.org/resources/publications/pocketk/1/

77. Which of the following statements is INCORRECT regarding Fuel cells?

a) Fuel cells produce electricity through chemical reactions, with combustion.
b) The byproducts produced from the cells are heat and water.
c) Fuel cells operates much like a battery, except they don't require electrical recharging.
d) A fuel cell, receives the chemicals it uses from the outside; therefore, it won't run out, unlike a battery.

Answer:A
Explanation:
What is a fuel cell?

- A Fuel cell produces electricity through a chemical reaction, **but without combustion**. So,Fuel cell electric vehicles, use clean fuels and are therefore more eco-friendly than internal combustion engine-based vehicles.
- It converts hydrogen and oxygen into water, and in the process also creates electricity. It's an electro-chemical energy conversion device that produceselectricity**, water, and heat.**
- Fuel cells operates much like a battery, except **they don't require electrical recharging**.

Difference between a battery and a fuel cell

- A battery stores all of its chemicals inside and converts the chemicals into electricity. Once those chemicals run out, the battery dies.
- A fuel cell, on the other hand, receives the chemicals it uses from the outside; therefore, it won't run out. Fuel cells can generate power almost indefinitely, as long as they have fuel to use.

Why this question?
A team of scientists from India has developed a selenium-graphene–based catalyst which is more efficient in terms of cost and performance.

Role of a Catalyst in a Fuel cell.

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

- Every fuel cell has two electrodes, one positive, called the anode, and one negative, called the cathode.
- These are separated by an electrolyte barrier. Fuel goes to the anode side, while oxygen (or air) goes to the cathode side.
- When both of these chemicals hit the electrolyte barrier, they react, split off their electrons, and create an electric current.
- **A chemical catalyst speeds up the reactions here.**

Source:

https://www.google.com/amp/s/www.thehindu.com/sci-tech/science/novel-selenium-graphene-catalyst-for-fuel-cells/article27949672.ece/amp/
http://www.chfca.ca/education-centre/what-is-a-fuel-cell/

78. The term "goAML" which was recently in the news related to

a) Recently found vaccine for Ebola virus
b) Cryptocurrency for secured transactions
c) Anti-money laundering platform
d) Protocol for climate change

Ans : C

Explanation

- The UAE has become **the first country in the Gulf** to launch a new reporting platform developed by the United Nations Office on Drugs and Crime **to curb organised crimes**.
- The UAE's Financial Intelligence Unit launched the **new anti-money laundering platform**'goAML', which has been open for registration since May. This was announced by officials of UAE Central Bank in Abu Dhabi.
- All financial entities and Designated Non-Financial Businesses or Professions have to register on this system.
- More than 900 entities including, banks, insurance companies and money exchange centres, are required to register on the platform and 50 percent of them have already registered.
- The platform will help the FIU prevent **money laundering**, **financing of terrorism** and other **illicit financial activities**.

http://newsonair.nic.in/Main-News-Details.aspx?id=365407

79. It is the only volcano on the island of Hawaii that has evidence of glaciation. As the highest volcano on the island of Hawaii, it is an ideal location to setup astronomical observatories. Recently, US officials have announced that a massive thirty-metre telescope project will be built on this Volcano.

The above description refers to which of the following ?

a) Mount Elbrus
b) Stromboli
c) Kamakou
d) Mauna Kea

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

Ans : D

Explanation

- Mauna Kea ("**White Mountain**") is the only volcano on the island of Hawaii that has evidence of glaciation.
- As the highest volcano on the island of Hawaii (summit elevation 4,205 meters or 13,800 feet above sea level), it is an ideal location for the astronomical observatories set up by several countries and academic consortiums.
- Recently, USA officials have announced that a massive thirty-metre telescope project that allow scientists to peer into the most distant reaches of our early universe will be built on Mauna Kea.
  https://www.space.com/hawaii-mauna-kea-observatories-reopen-amid-protests.html
  https://Earthobservatory.nasa.gov/images/87059/mauna-kea-volcano-hawaii

80. Consider the following statements regarding Manouria Impressa (Impressive tortoise)

1. Manouria impressa is one of the four species of forest-dwelling tortoises found in SouthEast Asia.
2. It is listed as an endangered species under the IUCN Red List.
3. They are mainly killed for traditional medicine.

Which of the above given statements is/are correct?

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

Ans : B

Explanation

Statements 1 and 3 are correct : It is known as Manouriaimpressa because of the "impressive" orange-brown to dark brown patches on the carapace.

Manouria impressa is **one of the four species** of forest-dwelling tortoise occurring in South East Asia. This is the smaller of two species of the genus Manouria, the other being the larger Asian Giant Tortoise (Manouriaemys).

The habitat of the tortoise is humid, moist hill and montane forest up to elevations of at lEast 1300 metres. However, the species in its home range is threatened by poaching primarily for traditional medicine and pet trade.

Statement 2 is incorrect : It is listed as a **vulnerable species (not endangered)** under IUCN Red List.

IUCN Red List

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

It was established in 1964, the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species has evolved to become the world's most comprehensive information source on the global conservation status of animal, fungi and plant species.
The IUCN Red List is a critical indicator of the health of the world's biodiversity.
It provides information about range, population size, habitat and ecology, use and/or trade, threats, and conservation actions that will help inform necessary conservation decisions.
The IUCN Red List Categories and Criteria are intended to be an easily and widely understood system for classifying species at high risk of global extinction. It divides species into **nine categories**: Not Evaluated, Data Deficient, LEast Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild and Extinct.

Why in news ?

- Recently, the team of herpetologists from the Forest Department and two NGOs — Help Earth and Turtle Survival Alliance (TSA) — found a pair of rare species, I**mpressed Tortoise (Manouriaimpressa) i**n Arunachal Pradesh.
- There are **only two species of tortoises under the Manouria genus.** India was known to be the home of only the Asian Forest Tortoise (Manouriaemys) until the discovery of the Impressed Tortoise.
  https://economictimes.indiatimes.com/news/environment/flora-fauna/tortoise-species-new-to-india-discovered-in-arunachal-jungle/articleshow/69947014.cms?from=mdr

81. Ambubachi Mela is celebrated in which among the following states ?

a) Meghalaya
b) Kerala
c) Arunachal Pradesh
d) Assam

Ans : D

Explanation

The AmbubachiMela is celebrated in the capital city of Guwahati, in the northEastern state of **Assam** in India. The AmbubachiMela is the most important festival of the **Kamakhya Temple** of Guwahati. The Ambubachi is a ritual observed with "Tantrik means". It is believed that the presiding goddess of the temple, Devi Kamakhya, the Mother Shakti, goes through her annual cycle of menstruation during this time stretch.
https://www.thehindu.com/news/national/other-states/celebrating-the-goddess-who-bleeds/article24234722.ece

82. Mission Raksha Gyan Shakti was recently in news, related to which of the following?

a) Skill Development
b) Defence indigenisation
c) Empowering Women
d) Child education

Ans : B

Explanation

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

- The Department of Defence Production has instituted a new framework titled 'Mission RakshaGyanShakti' which aims to provide a **boost to the IPR culture in indigenous defence industry.**
- The IPR has emerged as a key ingredient of an ecosystem which stimulates innovation and ingenuity.
https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1578275&RegID=3&LID=1

83. Consider the following with reference to the categorization of Biofuels

1. First Generation (1G) - Vegetable oil
2. Second Generation (2G)- Biomass waste
3. Third Generation (3G) - Algae
4. Fourth Generation (4G) - Photo biological Solar fuel

Which of the above given pairs are correctly matched?

a) 2 and 4 only
b) 1, 3 and 4 only
c) 1, 2 and 3 only
d) 1, 2, 3 and 4

Ans : D

Explanation

Biofuels are liquid or gaseous fuels primarily produced from biomass, and can be used to replace or can be used in addition to diesel, petrol or other fossil fuels for transport, stationary, portable and other applications. Crops used to make biofuels are generally either high in sugar (such as sugarcane, sugarbeet, and sweet sorghum), starch (such as maize and tapioca) or oils (such as soybean, rapeseed, coconut, Sunflower).

Bio-fuels have been categorised into 3 categories to extend appropriate fiscal incentives.

1. First Generation (1G): These are made from sugar, starch, **vegetable oil**, or animal fats using conventional technology. Common first-generation biofuels include Bioalcohols, Biodiesel, Vegetable oil, Bioethers, Biogas.

2. **Second Generation (2G):** These are produced from non-food crops, such as cellulosic biofuels and **waste biomass** like stalks of wheat and corn, and wood. Examples include advanced biofuels like biohydrogen, biomethanol.

3. Third Generation (3G): These are produced from micro-organisms like **algae.** Examples: Fuels like bio-CNG.

4. Fourth Generation (4G): Fourth-generation biofuels are made using non-arable land. However, unlike third-generation biofuels, they do not require the destruction of biomass. This class of biofuels includes **electrofuels** and **photobiological solar fuels**. Some of these fuels are carbon-neutral.

Hence, all pairs are **correctly matched.**

http://vikaspedia.in/energy/energy-production/bio-energy/biofuels
https://www.thehindubusinessline.com/economy/policy/cabinet-approves-national-biofuel-policy/article23903816.ece

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

84. Rashtriya Sanskriti Mahotsav, which was recently in news, is related to which of the following

a) It is an attempt to move from a sectoral and segmented approach of health service delivery to a comprehensive need-based health care service.
b) A programme to provide strategic funding to eligible state higher educational institutions.
c) A festival to showcase India's cultural heritage through performances of Arts, Folk Music, Dance, Handicrafts and Cuisines.
d) It is to provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.

Ans : C

Explanation

Option (c) is correct.

- RashtriyaSanskritiMahotsav was conceived in the year 2015
- The RashtriyaSanskritiMahotsav 2019 would showcase all facets of **Indian Culture** in different areas and aspects including Artists and Artisans from States/UT's.
- It will showcase India's cultural heritage through performances of Arts, Folk Music, Dance, Handicrafts and Cuisines.
- The RashtriyaSanskritiMahotsav will cover a profusion of folk art forms from 22 States and it would offer the chance to experience the best in established and emerging virtuosity.
- The RSM will reconnect the people-especially the youth- with their indigenous culture, its multifaceted nature, magnificence, opulence and historical importance in the context of India as a Nation over the millennia.

https://pib.gov.in/newsite/PrintRelease.aspx?relid=193769

Option (a) is incorrect : It is an attempt to move from sectoral and segmented approach of health service delivery to a comprehensive need-based health care service. **It is related to Ayushman Bharat program.**

Option (b) is incorrect : It is providing strategic funding to eligible state higher educational institutions. **It is related to RashtriyaUchchatarShikshaAbhiyan (RUSA).**

Option (d) is incorrect : It is to provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases. **It is related to Pradhan MantriFasalBimaYojana.**

85. Consider the following statements regarding Non Performing Assets

1. It is a loan or an advance for which the principal or interest payment remains overdue for a period of 90 days.
2. The assets which have remained in the substandard category for a period of 24 months are called as doubtful assets.

Which of the above given statements is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Ans : A

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

Explanation

A non performing asset (NPA) is a loan or advance for which the principal or interest payment remains overdue for a period of 90 days. Hence **Statement 1 is correct.**

Banks are required to classify NPAs further into Substandard, Doubtful and Loss assets.

1. Substandard assets: Assets which has remained NPA for a period less than or equal to 12 months.
2. **Doubtful assets:** An asset would be classified as doubtful if it has remained in the substandard category for a **period of 12 months**. Hence **Statement 2 is incorrect.**
3. Loss assets: As per RBI, "Loss asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted, although there may be some salvage or recovery value."

https://economictimes.indiatimes.com/definition/non-performing-assets
https://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx%3FId%3D449

86. Consider the following statements regarding Wholesale Price Index (WPI)

1. WPI basket includes both goods and services.
2. WPI is published by the Ministry of Commerce and Industry.

Which of the above given statements is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Ans : B

Explanation

Wholesale Price Index (WPI) measures the average change in the prices of commodities for bulk sale at the level of early stage of transactions.The index basket of the present 2011-12 series has a total of **697 items** including 117 items for Primary Articles, 16 items for Fuel & Power and 564 items for Manufactured Products. WPI basket **does not cover services**.Hence **statement 1 is incorrect.**

Wholesale price index calculated with **2011-12 base year** does not include taxes in order to remove the impact of fiscal policy. The Office of the Economic Adviser in the Department of Industrial Policy and Promotion, **Ministry of Commerce & Industry** is responsible for compiling WPI and releasing it. Hence **statement 2 is correct.**

http://www.arthapedia.in/index.php?title=Wholesale_Price_Index_(WPI)

87. Consider the following statements regarding M -15 fuel blending

1. It is a blend of 35 % methyl alcohol and 65 % Gasoline.
2. The use of blended fuel M-15 in BS-IV cars can result in lowering down greenhouse gas (GHG) emissions.

Which of the above given statements is/are INCORRECT?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

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

Ans : A

Explanation

- M-15 is a blend of **15 % methanol (methyl alcohol) and 85 % Gasoline**. Hence, **statement 1 is wrong.**
- Use of blended fuel M-15 in BS-IV cars can result in **lowering down greenhouse gas (GHG) emissions** by about 5 to 10 % thereby improving air quality. Hence, **Statement 2 is correct.**
- Methanol fuel is an alternative biofuel for internal combustion and other engines, either in combination with gasoline or independently. Methanol is less expensive to produce sustainably than ethanol fuel, although it is generally more toxic and has lower energy density.
  https://en.wikipedia.org/wiki/Methanol_fuel

88. Which of the following can be used to define a 'Wilful Defaulter'?

a) An entity or a person who has paid the loan back after judicial proceedings.
b) An entity or a person who has paid the loan back with some discounts.
c) An entity or a person who has not paid the loan back due to his inability.
d) An entity or a person who has not paid the loan back despite his ability to do so.

Ans : D

Explanation

A wilful defaulter is an entity or a person that has not paid the loan back despite the ability to repay it.
https://barandbench.com/overview-master-circular-on-wilful-defaulters/

89. SAFTA, sometimes in news is related to ;

a) SASEC
b) SAARC
c) ASEAN
d) BIMSTEC

Answer:B

Explanation:

The South Asian Free Trade Area (SAFTA) is the free trade arrangement of the South Asian Association for Regional Cooperation (SAARC). The agreement came into place in 2006, succeeding the 1993 SAARC Preferential Trading Arrangement. SAFTA signatory countries are Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

The **basic principles** underlying SAFTA are as under;

1. Overall reciprocity and mutuality of advantages so as to benefit equitably all Contracting States, taking into account their respective level of economic and industrial development, the pattern of their external trade, and trade and tariff policies and systems;

2. Negotiation of tariff reform step by step, improved and extended in successive stages through periodic reviews;

3. Recognition of the special needs of the LEast Developed Contracting States and agreement on concrete preferential measures in their favour;

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

4. Inclusion of all products, manufactures and commodities in their raw, semi-processed and processed forms

90. Which of the following statements about BIMSTEC is true?

1) BIMSTEC came into existence through the Bangkok Declaration in 1997.
2) Cambodia and Vietnam are member countries of BIMSTEC.

Select the correct answer using the given code below

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Answer: A

Explanation: The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization comprising seven Member States lying in the littoral and adjacent areas of the Bay of Bengal constituting a contiguous regional unity, which came into existence through Bangkok declaration in 1997.

Hence statement 1 is correct.

It constitutes seven Member States: five deriving from South Asia, including Bangladesh, Bhutan, India, Nepal, Sri Lanka, and two from SouthEast Asia, including Myanmar and Thailand. Since Cambodia and Vietnam are not member countries of BIMSTEC **statement 2 is incorrect.**

The BIMSTEC region is home to around 1.5 billion people which constitute around 22% of the global population with a combined gross domestic product (GDP) of 2.7 trillion economy.

https://bimstec.org/?page_id=189

91. Consider the following statements regarding Keoladeo national park

1. It is a notified Ramsar Wetland and also a UNESCO World Heritage Site.
2. The park was the last known wintering ground in India of the Siberian Crane.
3. Due to the healthy condition of the ecosystem it has been included in the Montreux record.

Which of the statements given above is/are correct?

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

Ans: C

Explanation:

Statement 1 is correct: Keoladeo National Park is in Rajasthan.

It was designated as a bird sanctuary on 13 March 1956 and a National Park on 10th March 1982. It was included in the World Heritage List in 1985. It was also notified as a Ramsar Site in October 1981. (dates not required).

Statement 2 is correct: The park was the last known wintering ground in India of Siberian crane *Grusleucogeranus*. During the winter of 1984-85, a decade-high total of 41 birds had visited the Park. However, the numbers have been steadily decreasing and in the winter of 1993 and 1994, none were observed. In 1996, four birds wintered in the Park, and in 1997 two adults and young birds were

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

seen. Thereafter, a pair was observed in the year 2001- 02, after which there have been no sightings so far.

Statement 3 is incorrect: The Montreux Record is a register of wetland sites or the List of Wetlands of International Importance, where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, **pollution** or other **human interference.**

There is a **shortage of water** in the park due to poor monsoon rainfall and the late release of water from the canal which feeds the park. This condition, along with the absence of water buffalo from the park, due to government policy, has led to a renewed uncontrolled growth of the grass **Paspalumdistichum**..

Ramsar convention:

- The Convention on Wetlands, called the Ramsar Convention, is an intergovernmental treaty adopted on 2nd February 1971 that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
- One of the key instrument of the Convention is its List of Wetlands of International Importance (the "Ramsar List"). All Parties to the Convention have the obligations to include in the List at lEast one site that meets the criteria established by the Conference of the Parties.

What are wetlands?

- Wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

Source: https://pib.gov.in/newsite/PrintRelease.aspx?relid=57791

92. Consider the following pairs

Tiger reserve	**States**
1. Bhadra tiger reserve	Karnataka
2. Dampa tiger reserve	Tripura
3. Tadoba- Andhari tiger reserve	Maharashtra

Which of the above pairs is/are correctly matched?

a) 1 and 2
b) 3 only
c) 1 and 3
d) None

Ans: C

Explanation:

Dampa Tiger reserve is in Mizoram.

All these tiger reserves were in the news for various reasons.

93. . What is the correct sequence of occurrence of the following protected areas as one proceeds from North to South?

1. Mukurthi
2. Bhitarkanika
3. Hemis

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

4. Ntangki

Select the correct answer using the code given below.

a) 4-2-1-3
b) 3-2-4-1
c) 3-4-2-1
d) 4-3-2-1

Ans: C

Explanation:

National Park	State
Hemis	Leh
Ntangki	Nagaland
Mukurthi	Tamil Nadu
Bhitarkanika	Odisha

94. Recently, the National Green Tribunal has directed a State Government to declare an area around a major wetland as an eco-sensitive zone. It is a natural freshwater wetland and also a Ramsar site. Which one of the following sites corresponds to the above description?

a) Harike
b) Palikaranai
c) Tsomoriri
d) Deepor Beel

Ans: D

Explanation:

The National Green Tribunal has directed the Assam government to declare the area around **DeeporBeel** — a major wetland on the Western edge of Guwahati — an eco-sensitive zone. DeeporBeel is an 'Important Bird Area' and a Ramsar Site, with a reserve forest nearby. Eco-sensitive zone entails declaring up to 10 km around a protected area a buffer zone and restricting industrial and other human activities.

Harikewetland is the largest **man made** wetland in Northern India formed at the confluence of Sutlej and Beas rivers in Punjab.

Palikaranai marshland is the only surviving wetland ecosystem of Chennai , Tamil Nadu and is among the last few remaining natural wetlands of South India. It is **not a Ramsar** wetland.

Tsomoriri is a Ramsar lake in Ladakh. It is a salt water lake.

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

95. Consider the following areas

1. Gulf of Mannar
2. Nokrek
3. Rann of Kutch
4. Panna

Which of the above are part of the world network of biosphere reserves under UNESCO's MAB program?

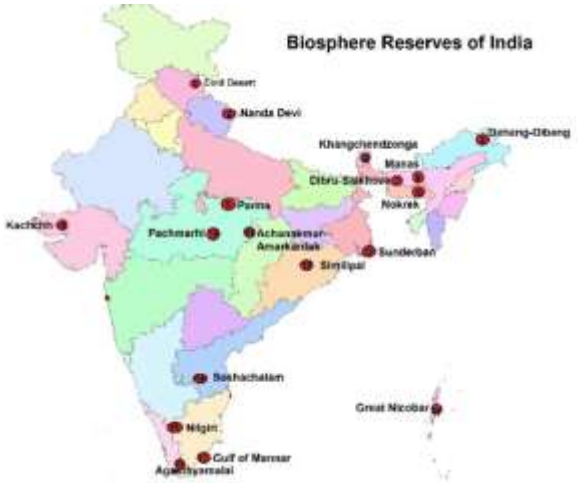
a) 1 and 2 only
b) 1, 3 and 4 only
c) 2, 3 and 4 only
d) l, 2, 3 and 4

Ans: A

Explanation:

Biosphere Reserves are areas of biodiversity where not only flora and fauna but **human settlement**s that are closely dependent on nature for their survival, are protected. In short, it's a natural habitat where national parks or wildlife sanctuaries along with the buffer zones are protected. In India we have 18 such Biosphere Reserves which were notified by MoEFCC.

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



'**World network of Biosphere reserves are** sites established by countries and recognized under UNESCO's Man and the Biosphere (MAB) Programme to promote sustainable development based on local community efforts and sound science. Out of total 18 biosphere reserves in India 11 are a part of the World Network of Biosphere Reserves, recognised globally as important areas of biodiversity
SITES THAT ARE INCLUDED IN WORLD NETWORK OF BIOSPHERE RESERVE

BIOSPHERE	STATE
Nilgiri	Tamil Nadu, Kerala, Karnataka
Gulf of Mannar	Tamil Nadu
Agasthyamalai	Kerala, TN
Sundarbans	West Bengal
Nanda Devi	Uttarakhand
Nokrek	Meghalaya
Pachmarhi	Madhya Pradesh
Simlipal	Odisha
Great Nicobar	Andaman and Nicobar islands
Achanakmar- Amarkantak	Chhattisgarh, Madhya Pradesh
Khangchendzonga	Sikkim

Source:https://www.outlookindia.com/outlooktraveller/explore/story/69879/india-biosphere-reserves-in-india-you-need-to-visit

96. Consider the following countries:

1. Vietnam
2. Laos

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

3. Cambodia
4. Thailand
5. Myanmar

River Mekong flows through which of the above countries?

a) 1, 2 and 4 only
b) 1, 3 and 5 only
c) 4 and 5 only
d) 1, 2, 3, 4 and 5

Ans: D

Explanation:

Originating from the Tibetan plateau at an altitude of 5,000 metres in China, the Mekong river traverses 4,800 km through six countries — China, Myanmar, Thailand, Laos, Cambodia and Vietnam — before emptying itself into the South China Sea.

Source:https://www.thehindubusinessline.com/opinion/Six-countries-one-river/article20653322.ece

97. What is the correct sequence of occurrence of the following cities in South-East Asia as one proceeds from south to north?

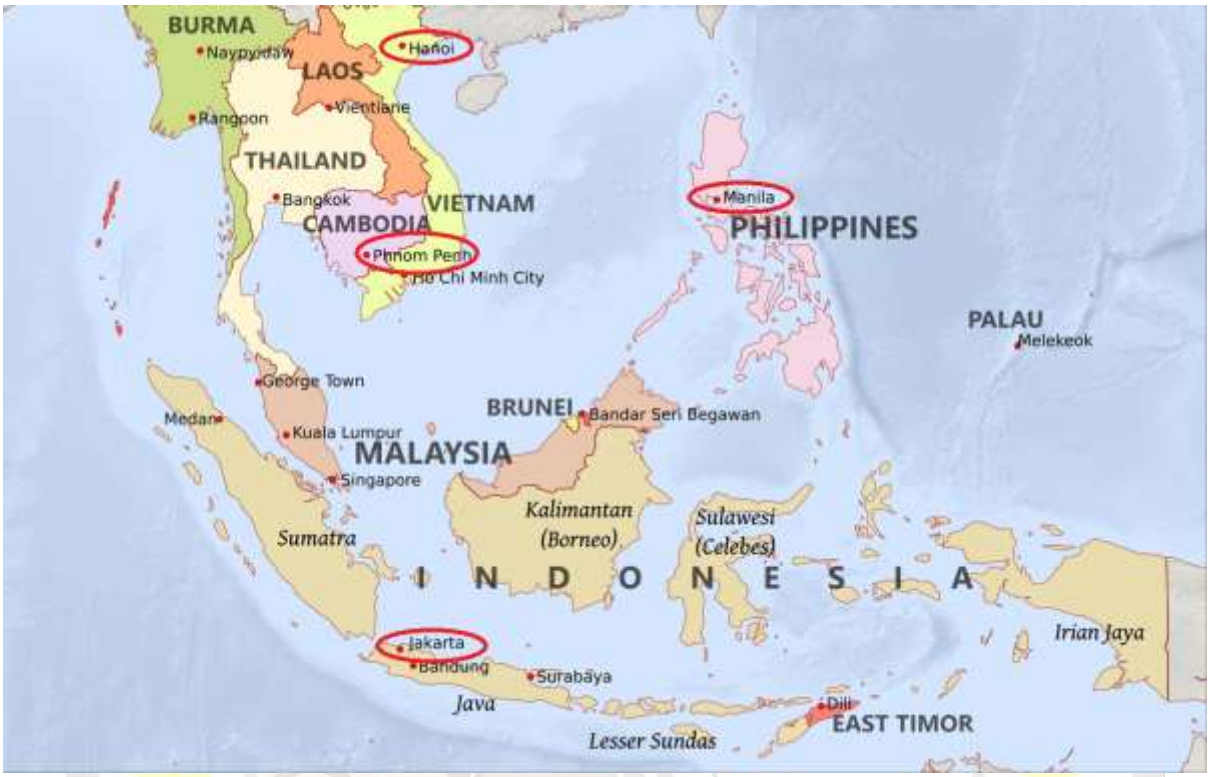
1. Manila
2. Hanoi
3. Jakarta
4. Phnom Penh

Select the correct answer using the code given below.

a) 4-2-1-3
b) 3-2-4-1
c) 3-4-1-2
d) 4-3-2-1

Answer: C

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



98. What is the correct sequence of occurrence of the following seas in South-East Asia as one proceeds from West to East?

1. Celebes Sea
2. Arafura Sea
3. Coral Sea
4. Banda Sea
5. Java Sea

Select the correct answer using the code given below.

a) 4-3-2-5-1
b) 5-1-4-2-3
c) 4-2-5-1-3
d) 5-4-3-2-1

Solution: B

Explanation:

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

99. With which of the following countries does Thailand share its borders

1. Myanmar
2. Laos
3. Cambodia
4. Vietnam
5. Malaysia

Select the correct answer using the code given below.

a) 1, 2 and 3 only
b) 2, 3 and 4 only
c) 1, 2, 3 and 5 only
d) All of the above

Ans: C

Explanation:

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

100. Consider the following statements about the Kra canal

1. The proposed canal is to be built on the Kra isthmus which belongs to Thailand.
2. The canal, if constructed would reduce ship traffic from the Strait of Malacca.
3. It would also reduce the travel time between the Andaman Sea and South China Sea significantly.

Which of the above statements is /are correct?

a) 1and 2 only
b) 1 and 3 only
c) 2 and 3 only
d) 1, 2, 3 and 4

Ans: D

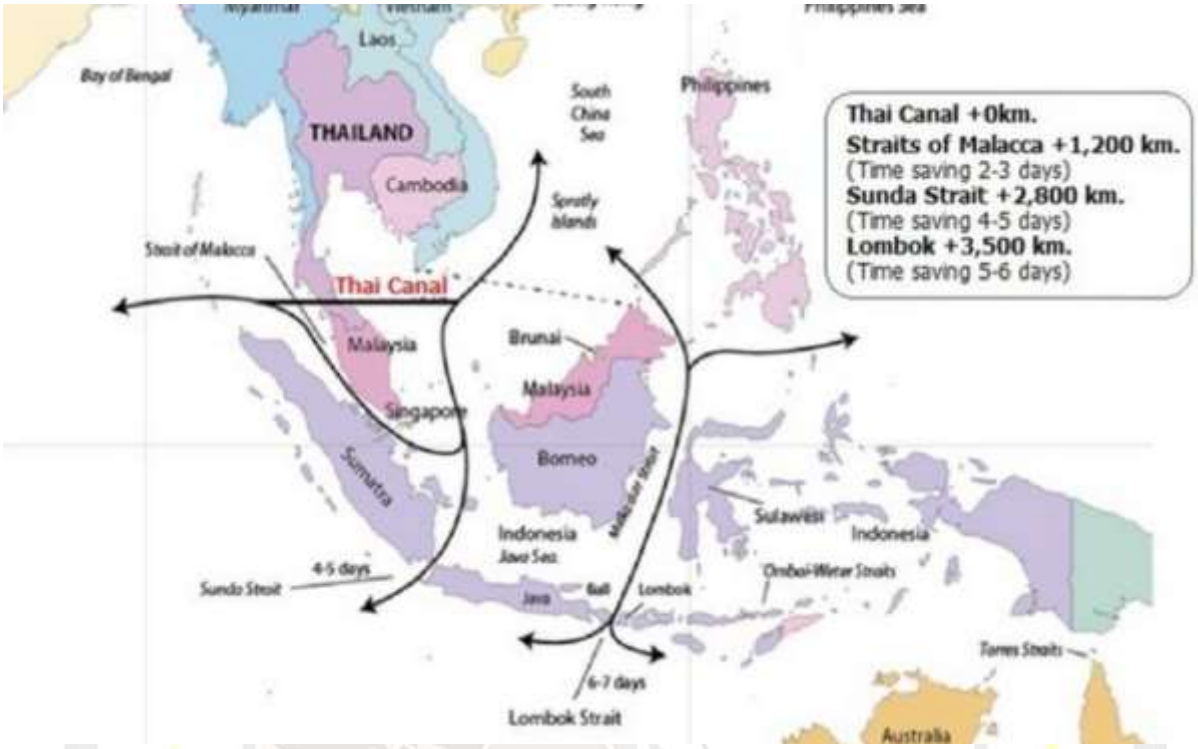
Explanation:

Statement 1 is correct: Kra isthmus is the narroWest part of Malay peninsula in southern Thailand.

Statement 2 is correct: Once built, the Kra Canal would not only cut both the distance as well as time for ships to move between the two seas, but also the dependency on Straits of Malacca and Straits. If constructed, the Kra Canal would eat a major chunk of the traffic currently flowing through the Strait of Malacca.

Statement 3 is correct: It would approximately reduce the distance between Andaman sea and south china sea by 1200 km than plying through strait of Malacca

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



Source: https://www.firstpost.com/india/thailands-kra-canal-project-is-chinas-masterplan-to-secure-beijings-interests-assert-influence-in-asean-indian-ocean-region-4420647.html

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