

- 1) .Which of the following is/are a direct source of information about the interior of the earth?

1. Earthquake waves
2. Gravitational force
3. Volcanoes
4. Earth magnetism

Select the correct answer using the code given below:

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

- 1 mins 19 s
- Explanation
- Status

- Ans (a)

Explanation: Volcanoes bring magma to the surface from which we can know about the interior of the earth. The other options do not tell anything directly about the earth's interior..

-

- 2) .Even though an earthquake occurs inside the ocean there may not be a Tsunami occurring every time. Which of the following is/are the reasons for it?

1. Very Low intensity of the quake
2. Divergence of plate boundaries
3. Movement of plates horizontally along transform faults
4. Presence of trenches along the coast

Select the correct answer using the code given below:

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

- 1 mins 24 s
- Explanation
- Status

- Ans (c)

Explanation:

- When the movement of plates is along a transform fault there is no vertical displacement of water. Hence there is no possibility of a Tsunami.

- At the same time Low intensity quakes do not have the strength to trigger a Tsunami.
- Divergence of Plate boundaries can trigger a Tsunami as it displaces a huge amount of water vertically. Presence of trenches along the coast is not related to the triggering of a Tsunami

•

- 3) .Which of the following is/are correctly matched?

1. Subtropical high pressure belt -Thermally induced

2. Subpolar low pressure belt - Dynamically induced

3. Polar high - Thermally pressure belt induced

Select the correct answer using the codes given below:

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

- 0 mins 17 s
- Explanation
- Status

- Ans (b)

Explanation:

- Sub-tropical high pressure belt – this belt owes its origin to the rotation of the earth and sinking and settling down of winds. It is thus, mainly dynamically induced.
- Sub-polar low pressure belt – This belt is also dynamically induced. In this zone, the air coming from the sub-tropical and polar high-pressure zones converge and rise up, creating a zone of low pressure. This zone is characterized by cyclonic storms.
- Polar high pressure belt – High pressure persists at the poles throughout the year because of prevalence of very low temperature all the year. Thermally induced.

•

- 4) .Consider the Following statements regarding Pradhan Mandtri Ujjwala Yojana

1. It aims to promote efficient lighting, enhance awareness of using efficient electrical equipments.

2. It will be implemented by the Ministry of Power.

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

- 0 mins 19 s
- Explanation
- Status

- Ans (d)

Explanation:

• **Pradhan Mantri Ujjwala Yojana:** Objectives of Pradhan Mantri Ujjwala Yojana Ujjwala

Yojana is aimed at providing 5 Crore LPG connections in the name of women in BPL (Below Poverty Line) households across the country. The government has set a target of 5

Crore LPG connections to be distributed to the BPL households across the country under the scheme. This is the first time in the history of the country that the Ministry of Petroleum and Natural Gas would implement a welfare scheme benefitting crores of women belonging to the poorest households.

• **UJALA programme :** Unnat Jyoti by Affordable LEDs for All (UJALA) was launched by

Prime Minister of India Narendra Modi on 1 May 2015, replacing the "Bachat Lamp Yojana". The scheme was announced as "Domestic Efficient Lighting Programme (DELP)"

on 5 January 2015, urging the people to use LED bulbs in place of incandescent bulbs, tube lights and CFL bulbs as they are more efficient, long lasting and economical in their life cycle duration. The scheme was implemented by Energy Efficiency Services Limited (EESL) (under the Ministry of Power).

•

- 5) .Consider the following statements regarding Sustainable Development Goals (SDG)

1. These are broader in scope than the Millennium Development Goals (MDG)
2. The resolution on these goals was reached in the Rio+20 summit.
3. These goals are binding on the Governments who are signatories to these Agreements.

Which of the statements given above is/are correct?

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

- 0 mins 27 s
- Explanation
- Status

- Ans (b)

Explanation: SDGs

- The SDGs build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty.
- In 1992 the first United Nations Conference on Environment and Development was held in Rio. It was here that the first agenda for Environment and Development was developed and adopted, also known as Agenda 21. Twenty years later, at the Rio+20 Conference, a resolution, known as The Future We Want was reached by member states.
- The new agenda will be monitored and reviewed using a set of global indicators. The global indicator framework, to be developed by the Inter Agency and Expert Group on SDG Indicators (IAEA-SDGs), will be agreed on by the UN Statistical Commission by March 2016. The Economic and Social Council and the General Assembly will then adopt these indicators.
- The 17 Sustainable Development Goals (SDGs) with 169 targets are broader in scope and go further than the MDGs by addressing the root causes of poverty and the universal need for development that works for all people. The goals cover the three dimensions of sustainable development: economic growth, social inclusion and environmental protection.
- The Sustainable Development Goals (SDGs) are not legally binding. Nevertheless, countries are expected to take ownership and establish a national framework for achieving the 17 Goals.
- Implementation and success will rely on countries' own sustainable development policies, plans and programmes.
- Countries have the primary responsibility for follow-up and review, at the national, regional and global levels, with regard to the progress made in implementing the Goals and targets over the next 15 years. Actions at the national level to monitor progress will require quality, accessible and timely data collection and regional follow-up and review.

•

- 6) .The main reason that the earth experiences highest temperatures in the subtropics in the northern hemisphere rather than at the equator is:
 - a . Subtropical areas tend to have less cloud cover than equatorial areas.
 - b . Subtropical areas have longer day hours in the summer than the equatorial.
 - c . Subtropical areas have an enhanced “green house effect” compared to equatorial areas.
 - d . Subtropical areas are nearer to the oceanic areas than the equatorial locations.

- 1 mins 10 s
- Explanation
- Status

- Ans (a)

Explanation:

- The equator does not experience the highest temperatures on Earth. Here, rising air generates daily thunderstorms that consume considerable amounts of heat energy, suppressing the air temperature by several degrees Celsius. The greater cloud cover also helps to reduce the amount of sunlight.

- In fact, the hottest places on Earth lie in the subtropical climate zone of high pressure between latitudes 25 to 40°, where cloud cover is virtually non-existent and sunshine levels are very high throughout the year. Parts of the Sahara Desert, Saudi Arabia, California and Australia can experience daytime temperatures of over 50°C, although during the winter months, severe radiation cooling under the clear skies at night can drop the air temperature close to or even below freezing.

-

- 7) .Which of the following are known as “Golden Triangle of Odisha”?

1. Bhubaneswar
2. Konark
3. Puri
4. Sambalpur

Select the correct answer using the code given below:

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

- 0 mins 14 s
- Explanation
- Status

- Ans (c)

Explanation: Golden triangle of Odisha

- Bhubaneswar, Konark and Puri makes the perfect Golden Triangle in Odisha (Orissa) that is the best tour plan to explore the real charm of Odisha tourism. During your Odisha golden triangle tour, you will visit the rich cultural heritage, temple architecture of Odisha, famous temples, sea beaches, natural wonders and above all the Oriya culture and traditions. Mayfair Hotels & Resorts Group offers 3 nights and 4 days tour plan for you.

- The wonderful tour starts from Bhubaneswar – the capital of Odisha. Some of the popular tourist attractions that you will visit in Bhubaneswar include Lingaraj Temple, Ananta Vasudeva Temples, Raja Rani Temple, Parsurameswar Temple, Brahmeswar Temple, Mukteswar Temple and many others. Some wonderful attractions in surrounding areas include Dhauli Hill, Nanda Kanan, Ekamra Kannan, caves of Udaigiri and Khandagiri and a few others.

- Konark is your next destination – known for world-famous Sun Temple, the UNESCO World Heritage Site. It is also famous for a beach named Chandrabhaga. Our Odisha Golden Triangle tour also covers Raghurajpur that is famous for Appliqué and Patta Chitra (Palm-Leaf Arts).

- Puri is most beautiful place to visit. Being the reign of Sri Jagannath Prabhu, Puri is one of the four most sacred pilgrimage destinations in India (Char Dham). Sri Jagannath Temple, Gundicha Temple, Puri Beach, etc are the places to see in Puri that will surprise you. We make your tour memorable and full of fun by providing all state of the art services and facilities along with luxurious accommodation.

-

- 8) .Consider the following statements regarding Chilka Lake

1. It has been designated as wetland of International importance under the Ramsar convention.
2. It is the largest brackish water lake.
3. It is the largest coastal lagoon in India.
4. It is also known for Irrawaddy dolphins.

Which of the statements given above is/are correct?

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

- 0 mins 25 s
- Explanation
- Status

- Ans (d)

Explanation:

- In 1981, Chilika Lake was designated the first Indian wetland of international importance under the Ramsar Convention.

- Chilika lake is the biggest and most famous Brackish water (partial saline) lagoon. This is India's biggest and World's second biggest coastal lagoon. (Sambhar salt lake near Jaipur is the biggest saline lake of India, Wular lake of Kashmir is the biggest fresh water lake of India and Asia).

- Chilika lake is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha state on the east coast of India, at the mouth of the Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 km². It is the largest coastal lagoon in India and the second largest lagoon in the world after The New Caledonian barrier reef in New Caledonia

-

- 9) .Which of the following are Temperate Grasslands?

1. Steppes
2. Pampas
3. Savannas
4. Downs

Select the correct answer using the codes given below:

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

- 0 mins 19 s
- Explanation
- Status

- Ans (c)

Explanation: Savannas are Tropical Grasslands.

-

- 10) .Consider the following statements:

1. It is characterized by distinct wet and dry seasons.
2. They have warm temperature year round.
3. It is characterized by tall grass and short trees.

The above mentioned climatic features refers

- a . Steppe type
- b . Mediterranean type
- c . Savanna type
- d . Laurentian type

- 0 mins 16 s
- Explanation
- Status

- Ans (c)

Explanation:

- In the savanna climate there is a distinct dry season, which is in the winter. Savannas get all their rain in the summer months. During the distinct dry season of a savanna, most of the plants shrivel up and die. Some rivers and streams dry up. Most of the animals migrate to find food.
- In the wet season all of the plants are lush and the rivers flow freely. The animals migrate back to graze. In West Africa the rainy season begins in May.
- Savannas have warm temperature year round.

- Plants of the savannas are highly specialized to grow in this environment of long periods of drought. They have long tap roots that can reach the deep water table, thick bark to resist annual fires, trunks that can store water, and leaves that drop off during the winter to conserve water. The grasses have adaptations that discourage animals from grazing on them; some grasses are too sharp or bitter tasting for some animals, but not others, to eat. The side benefit of this is that every species of animal has something to eat. Different species will also eat different parts of the grass. Many grasses grow from the bottom up, so that the growth tissue doesn't get damaged by grazers. Many plants of the savanna also have storage organs like bulbs and corms for making it through the dry season.

• 11) . Which one of the following is not the factor for the formation of planetary wind system?

- a . Latitudinal variation of the atmospheric heating.
- b . Emergence of the pressure belt
- c . Earth's revolution around the Sun
- d . Migration of the pressure belts due to apparent path of the Sun.

- 1 mins 15 s
- Explanation
- Status

• Ans (c)

Explanation:

- The general distribution of winds throughout the lower atmosphere is known as planetary

winds. Confined within some latitudinal belts, these winds blow rather regularly throughout the year and are basically controlled by the latitudinal pressure belts. The main planetary winds are (i) the North-east and the South-east Trade winds (ii) the Temperate Westerlies and (iii) the Polar Easterlies, which blow from the polar high pressure area to the temperate low pressure area.

- Earth's rotation and not its revolution is connected with planetary wind system. Earth's rotation is responsible for generation of Coriolis force, which impacts the direction (and not

speed) of planetary winds. This is the reason why we have south-west and north-east monsoon and not south and north monsoon.

- Once air has been set in motion by the pressure gradient force, it undergoes an apparent deflection from its path, as seen by an observer on the earth. This apparent deflection is called the "Coriolis force" and is a result of the earth's rotation.

- As air moves from high to low pressure in the northern hemisphere, it is deflected to the right by the Coriolis force. In the southern hemisphere, air moving from high to low pressure is deflected to the left by the Coriolis force.

•

- 12) .Which of the following region/s will have most of its rainfall in the months of December-January?

1. Areas in the borderlands of the Mediterranean Sea.
2. Central and southern California coast in USA.
3. Central Chile

Select the correct answer using the code given below:

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

- 0 mins 22 s
- Explanation
- Status

- Ans (b)

Explanation:

- A Mediterranean climate is the climate typical of the lands in the Mediterranean Basin, and is a particular variety of subtropical climate. The lands around the Mediterranean Sea form the largest area where this climate type is found, but it also is found in most of California in parts of Western and South Australia, in south-western South Africa, sections of Central Asia, and in central Chile.
- During summer, regions of Mediterranean climate are dominated by subtropical high pressure cells, with dry sinking air capping a surface marine layer of varying humidity and making rainfall impossible or unlikely except for the occasional thunderstorm, while during winter the polar jet stream and associated periodic storms reach into the lower latitudes of the Mediterranean zones, bringing rain, with snow at higher elevations. As a result, areas with this climate receive almost all of their precipitation during their winter, autumn and spring seasons, and may go anywhere from 4 to 6 months during the summer without having any significant precipitation.
- Chile experiences summer during December-January. Hence no rainfall is seen during that period.

•

- 13) .Consider the following statements regarding E-Waste Management Rules, 2016

1. The applicability's of the rules has been extended not only to consumer but also to manufacturer, dealer and refurbisher.
2. For the first time, Compact Fluorescent Lamp (CFL) and other mercury containing lamp are also brought under the purview of rules.
3. The manufacturer is also now responsible to collect e-waste generated during the manufacturer of any electrical and electronic equipment and channelize it for recycling of disposal..

Which of the statements given above is/are correct?

- a . 1 only
- b . 1 and 3 only

c . 2 and 3 only

d . 1, 2 and 3

- 0 mins 4 s
- Explanation
- Status

- Ans (d)

Explanation: E-Waste Management rules 2016

Highlights of the E-Waste Management Rules, 2016

- Manufacturer, dealer, refurbisher and Producer Responsibility Organization (PRO) have been introduced as additional stakeholders in the rules.
- The applicability of the rules has been extended to components, consumables, spares and parts of electromechanical.
- Compact Fluorescent Lamp (CFL) and other mercury containing lamp were brought under the purview of rules for the first time.
- Collection mechanism based approach has been adopted to include collection centre, collection point, take back system etc for collection of e-waste by Producers under Extended Producer Responsibility (EPR).
- Option has been given for setting up of PRO, e-waste exchange, e- retailer, Deposit Refund Scheme as additional channel for implementation of EPR by Producers to ensure efficient channelization of e-waste.
- Provision for Pan India EPR Authorization by CPCB has been introduced replacing the State wise EPR authorization.
- Deposit Refund Scheme was introduced as an additional economic instrument wherein the producer charges an additional amount as a deposit at the time of sale of the electrical and electronic equipment.
- The amount will be returned to the consumer along with interest when the end-of life electrical and electronic equipment is returned.
- The e-waste exchange as an option has been provided in the rules as an independent market instrument offering assistance or independent electronic systems offering services for sale and purchase of e-waste.
- The manufacturer is also now responsible to collect e-waste generated during the manufacture of any electrical and electronic equipment and channelise it for recycling or disposal and seek authorization from SPCB.
- For the first time, the roles of the State Government was introduced in the Rules in order to ensure safety, health and skill development of the workers involved in the dismantling and recycling operations.
- State Government will prepare an integrated plan for effective implementation of these provisions and submit annual report to Ministry of Environment, Forest and Climate Change.
- The transportation of e-waste shall be carried out as per the manifest system whereby the

transporter shall be required to carry a document (three copies) prepared by the sender, giving the details.

- Liability for damages caused to the environment or third party due to improper management of e-waste including provision for levying financial penalty for violation of provisions of the Rules introduced.

- Urban Local Bodies (Municipal Committee/Council/Corporation) were given the duty to collect and channelized the orphan products to authorized dismantler or recycler.

-

- 14) .What are the causes of low pressure in the equatorial region?

1. High temperature
2. Air convergence
3. High humidity

Select the correct answer using the code given below

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

- 0 mins 20 s
- Explanation
- Status

- Ans (a)

Explanation:

- Since the maximum insolation is available in the equatorial region, the earth's surface is intensely heated during the day so that the lowermost layers of air get warmed. The heated air expands, becomes lighter, and rises upward. Thus, convectional currents are set up in the atmosphere throughout the year.

- Convergence of air is the result of these convective currents. The converging air brings moisture from the tropics. Hence the high humidity.

-

- 15) .With reference to International Date Line (IDL), consider the following statements

1. A traveller crossing the IDL from east to west gains a day.
2. IDL is an imaginary straight line at 180 degree meridian.

Which of the statements given above is/are correct?

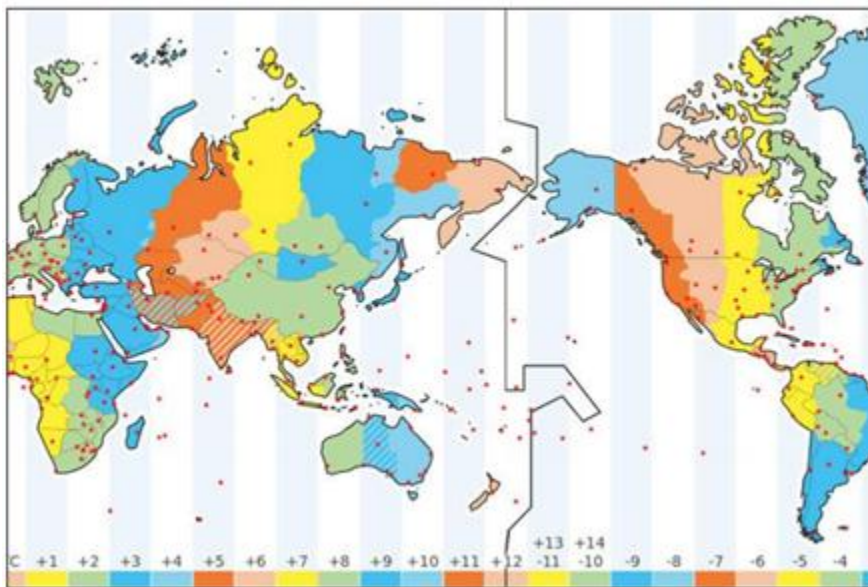
- a . 1 only
- b . 2 only
- c . Both 1 and 2
- d . Neither 1 nor 2

- 0 mins 48 s
- Explanation
- Status

- Ans (d)

Explanation:

• The International Date Line (IDL) is an imaginary line of navigation on the surface of the Earth that runs from the north pole to the south pole and demarcates the change of one calendar day to the next. It passes through the middle of the Pacific Ocean, roughly following the 180° line of longitude but deviating to pass around some territories and island groups.



- The IDL is roughly based on the meridian of 180° longitude, roughly down the middle of the Pacific Ocean, and halfway around the world from the Greenwich meridian. In many places, the IDL follows the 180° meridian exactly. However, in other places, the IDL deviates east or west away from that meridian. These various deviations generally accommodate the political and/or economic affiliations of the affected areas.
 - There is a total difference of 24 hours between the two sides of the 180 degree meridian.
- A traveller crossing the date line from east to west loses a day and while crossing the dateline from west to east he gains a day.

•

- 16) .Corals reefs are generally absent on the western coasts of continents. This is because
 - a . Western coast of continents witnesses subsidence of air.
 - b . Western coast of continents have cold currents.
 - c . Western coast of continents have dry winds blowing over them.

d . Western Coast of continents are having high ocean's surface temperature because of the existence of hot deserts.

- 0 mins 47 s
- Explanation
- Status

- Ans (b)

Explanation: Coral reefs are sensitive to temperature. This limits the areal distribution of corals to the tropical and sub tropical zones. Again they will not flourish where there are cold currents because of the upwelling of the cold water from the depths that cools the warm surface water. This explains why coral reefs are absent on the western coasts of the continent.

-

- 17) .Which of the following is the relief features of ocean floor?

1. Seamount
2. Guyots
3. Atoll

Select the correct answer using the code given below:

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

- 0 mins 12 s
- Explanation
- Status

- Ans (c)

Explanation:

- Ocean bottoms are not plain as believed earlier; they reveal many complex and varied features which rival the relief features on land.

- Four major divisions can easily be identified on the ocean floor—

- i. The continental shelf,

- ii. The continental slope,

- iii. The continental rise,

- iv. The abyssal plain. Besides these, there are many associated features—ridges, hills, seamounts, guyots, trenches, canyons, sleeps, fracture zones, island arcs, submerged volcanoes and sea-scarps. Atolls will be formed on top of the sea mount or any other landforms under sea.

•

- 18) .The equatorial region has no season except summer. What could be the reason?

1. The length of the day and night is more or less equal over the year.
2. The Earth's rotational velocity is maximum at the equator.
3. The Coriolis force is zero at the equator.

Select the correct answer using the code given below.

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

- 3 mins 24 s
- Explanation
- Status

- Ans (a)

Explanation:

- The seasons are not caused by how far Earth is from our Sun. Earth's orbit around our Sun has a slightly elliptical path, and the Sun is not exactly in the centre of the ellipse. This means that, during the year, Earth is sometimes farther from our Sun, and sometimes closer — but the difference is small. Earth is closest to our Sun in January (perihelion) and the farthest away in July (Earth is 147.5 million kilometres from the Sun when it reaches aphelion).
- As the Earth orbits the Sun, the position of its axis relative to the Sun changes. This results in a change in the observed height of our Sun above the horizon. For any given location on Earth, our Sun is observed to trace a higher path above the horizon in the summer, and a lower path in the winter. During spring and fall, it traces an intermediate path. This means that our Sun takes a greater amount of time to cross the sky in the summer and a shorter amount of time in the winter. This effect is greater as you move toward the poles; people living near the equator experience only small changes in daylight during the year. The change is more extreme toward the poles.

•

- 19) .Arrange the following events in the correct chronological order in one particular year

1. World Sparrow Day
2. World Water Day
3. World Forest Day
4. World Meteorological Day

Select the correct answer using the code given below:

- a . 1 – 2 – 3 – 4
- b . 1 – 3 – 2 – 4
- c . 1 – 2 – 4 – 3

d . 4 – 3 – 1 – 2

- 0 mins 5 s
- Explanation
- Status

- Ans (b)

Explanation:

- World Sparrow Day is a day designated to raise awareness of the house sparrow and other common birds to urban environments, and of threats to their populations, observed on 20 March. It is an international initiative by the Nature Forever Society of India in collaboration with the Eco-Sys Action Foundation (France) and numerous other national and international organisations across the world.

- The International Day of Forests was established on the 21st day of March, by resolution

of the United Nations General Assembly on November 28, 2012. Each year, various events celebrate and raise awareness of the importance of all types of forests, and trees outside forests, for the benefit of current and future generations. The Secretariat of the United Nations Forum on Forests, in collaboration with the Food and Agriculture Organization, facilitates the implementation of such events in collaboration with governments, the Collaborative Partnership on Forests, and international, regional and sub regional organizations.

- World Water Day is an annual event celebrated on March 22. The occasion of World Water Day is also used to highlight required improvements for access to WASH (water, sanitation, hygiene) facilities in developing countries.

- World Meteorological Day is held annually on 23 March to remember the World Meteorological Organization's establishment on that date in 1950.

-

- 20) .Which of the following nations is/are not the members of BIMSTEC?

1. Nepal
2. Bhutan
3. Indonesia

Select the correct answer using the code given below:

- a . 1 and 2 only
- b . 1 only
- c . 3 only
- d . All of the above

- 0 mins 24 s
- Explanation
- Status

- Ans (c)

Explanation: BIMSTEC

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is an international organisation involving a group of countries in South Asia and South East Asia. These are: Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan and Nepal.

- 21) .The major hot deserts of the world are located on the western coasts of continents between latitudes 15 and 30 degree North and South. Which among the following are examples of such deserts?

1. Patagonian desert
2. Gobi desert
3. Atacama desert
4. Great Australian desert

Select the correct answer using the code given below:

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

- 0 mins 59 s
- Explanation
- Status

- Ans (c)

Explanation: Patagonian and Gobi Deserts are Cold Deserts located pole ward of 30 degree latitude.

-

- 22) .Albedo is the fraction of solar energy reflected from the Earth back into space. Consider the following:

1. Fresh snow
2. Ocean ice
3. Rivers on high mountains

The correct order of their Albedo in terms of increasing order

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

- 2 mins 29 s

- Explanation
- Status

- Ans (d)

Explanation: Albedo is the fraction of solar energy (shortwave radiation) reflected from the Earth back into space. It is a measure of the reflectivity of the earth's surface. Ice, especially with snow on top of it, has a high albedo: most sunlight hitting the surface bounces back towards space. Water is much more absorbent and less reflective. So, if there is a lot of water, more solar radiation is absorbed by the ocean than when ice dominates.

Albedo of Various Surfaces	
Surface or Object	Albedo (%)
Fresh Snow	75 to 95
Clouds (thick)	60 to 90
Clouds (thin)	30 to 50
Venus	78
Ice	30 to 40
Sand	15 to 45
Earth and Atmosphere	30
Grassy Field	10 to 30
Dry, Plowed Field	5 to 20
Water	5 to 80
Forest	3 to 10
Moon	7

•

- 23) .Consider the following statements regarding Bhakra Nangal Project
 1. It is the joint venture of Punjab, Haryana and Rajasthan.
 2. The Bhakra dam, known as Gobind Sagar, is built on Sutlej river in Himachal Pradesh.
 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

- 0 mins 6 s
- Explanation
- Status

- Ans (c)

Explanation: Bhakra nangal Project

- The Bhakra-Nangal multipurpose dams were among the earliest river valley development schemes undertaken by India after independence though the project had been conceived long before India became a free nation.
- Bhakra Dam is a concrete gravity dam the Satluj River in Bilaspur, Himachal Pradesh in northern India. Its reservoir known as "Gobind Sagar".
- Nangal Dam is another dam downstream of Bhakra Dam. However, sometimes both the dams together are called Bhakra-Nangal Dam though they are two separate dams
- It is a joint venture of the Punjab, Haryana and Rajasthan states designed to harness the precious water of the Satluj for the benefit of the concerned states.
- Construction of the dam started in 1948, Jawaharlal Nehru poured the first bucket of concrete into the foundations of Bhakra on 18 November 1955 [3] and the dam was completed by the end of 1963.

•

- 24) .

Which of the following pair is correctly matched?

States	-	Tourism Tagline
a. Punjab	-	1. Land of Festivals
b. Odisha	-	2. India begin here
c. Rajasthan	-	3. Jewel of India
d. Sikkim	-	4. Small but beautiful

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

- 0 mins 9 s
- Explanation
- Status

- Ans (d)

States	Tagline/Punchline/Slogan
Andhra Pradesh	The Essence of Incredible India
Arunachal Pradesh	The Land of Dawnlit Mountains
Bihar	Blissful Bihar
Chattisgarh	Full of Surprises
Dadra and Nagar Haveli	The Land of Natural Beauty
Goa	A Perfect Holiday Destination
Gujarat	Vibrant Gujarat
Haryana	A Pioneer in Highway Tourism
Himachal Pradesh	Unforgettable Himachal
Indian Tourism	Atithi Devo Bhava
Jammu and Kashmir	Chalo Kashmir
Jharkhand	A New Experience
Karnataka	One State. Many Worlds.
Kerala	God's Own Country
Lakshadweep	99% fun and 1% land
Madhya Pradesh	The Heart of Incredible India
Maharashtra	Unlimited
Manipur	Jewel of India
Meghalaya	Half Way To Haaven
Nagaland	Land of Festivals
Orissa	The Soul of Incredible India
Puducherry	Give Time a Break
Punjab	India Begins Here
Rajasthan	The Incredible State of India
Sikkim	Small But Beautiful
Tamil Nadu	Enchanting Tamil Nadu
Tripura	Visit Agartala
Uttar Pradesh	Amazing Heritage Grand Experiences
Uttarakhand	Exploring Uttarakhand
West Bengal	Beautiful Bengal

•

- 25) .Which of the following reports/indices are prepared by the United Nation Organization?

1. Gender Inequality Index
2. World Happiness Report
3. Global Environment Outlook

Select the correct answer using the code given below:

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

- 2 mins 5 s
- Explanation
- Status

- Ans (d)

Explanation: Reports of United Nation Organization

- The Gender Inequality Index (GII) is an index for measurement of gender disparity that was introduced in the 2010 Human Development Report 20th anniversary edition by the United Nations Development Programme (UNDP). According to the UNDP, this index is a composite measure which captures the loss of achievement within a country due to gender inequality. It uses three dimensions to do so: reproductive health, empowerment, and labour market participation.
- The new index was introduced as an experimental measure to remedy the shortcomings of the previous indicators, the Gender Development Index (GDI) and the Gender Empowerment Measure (GEM), both of which were introduced in the 1995 Human Development Report.
- The World Happiness Report is a measure of happiness published by the United Nations Sustainable Development Solutions Network. In July 2011, the UN General Assembly passed a resolution inviting member countries to measure the happiness of their people and to use this to help guide their public policies. On April 2, 2012, this was followed by the first UN High Level Meeting on "Happiness and Well-Being: Defining a New Economic Paradigm," which was chaired by Prime Minister Jigme Thinley of Bhutan, the first and so far only country to have officially adopted gross national happiness instead of gross domestic product as their main development indicator.
- Global Environment Outlook (GEO) is a series of reports on the environment issued periodically by the United Nations Environmental Programme (UNEP). The GEO project was initiated in response to the environmental reporting requirements of UN Agenda 21 and to a UNEP Governing Council decision of May 1995 which requested the production of a new comprehensive global state of the environment report.

•

- 26) .Consider the following statements regarding International North and South Transport Corridor (INSTC)

1. It is the multimodal transport corridor involving ship, rail and road routes for moving freight.
2. It increases trade connectivity between Eastern India and Russia.

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

- 0 mins 4 s
- Explanation
- Status

- Ans (a)

Explanation: International North–South Transport Corridor (INSTC)

- The International North–South Transport Corridor is the ship, rail, and road route for moving freight between India, Russia, Iran, Europe and Central Asia. The route primarily involves moving freight from India, Iran, Azerbaijan and Russia via ship, rail and road. The objective of the corridor is to increase trade connectivity between major cities such as

Mumbai, Moscow, Tehran, Baku, Bandar Abbas, Astrakhan, Bandar Anzali, etc

- This will also synchronize with the Ashgabat agreement, a Multimodal transport agreement signed by India, Oman, Iran, Turkmenistan, Uzbekistan and Kazakhstan, for creating an international transport and transit corridor facilitating transportation of goods between Central Asia and the Persian Gulf. The Union Cabinet of India has given its approval for India to accede to the Ashgabat Agreement.

-

- 27) .Which of the following factors control the formation of soil?

1. Parent material
2. Topography
3. Climate
4. Biological activity
5. Time

Select the correct answer using the code given below:

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

- 0 mins 13 s
- Explanation
- Status

- Ans (d)

Explanation: Parent material: It is a passive control factor in soil formation. It can be any

in situ or on-site weathered rock debris or transported deposits.

1. **Topography:** The influence is felt through the amount of exposure of a surface covered

by parent materials to sunlight and the amount of surface and sub-surface drainage over and through the parent materials.

2. **Climate:** The climatic elements involved in the soil development are moisture in terms of

its intensity, frequency and duration of precipitation-evaporation and humidity; and temperature in terms of seasonal and diurnal variations.

3. The vegetative cover and organisms that occupy the parent materials from the

beginning

and also at later stages help in adding organic matter, moisture retention, nitrogen etc.

4. **Time:** The length of time the soil forming processes operate, determines maturation of soils and profile development.

-

- 28) .Which of the following is/are the glacial landforms?

1. Cirque
2. Moraine
3. Stalactite

Select the correct answer using the code given below:

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

- 0 mins 17 s
- Explanation
- Status

- Ans (c)

Explanation:

- Cirques are the most common of landforms in glaciated mountains. These are quite often

found at the heads of glacial valleys.

- Moraines are long ridges of deposits of glacial till. Terminal moraines are long ridges of debris deposited at the end of the glaciers. Lateral moraines form along the sides parallel to the glacial valleys.

-

- 29) .Which of the following ocean currents are formed in the Pacific Ocean?

1. Benguela Current
2. Florida Current
3. Kuroshio Current

Select the correct answer using the code given below

- a . 1 and 2 only
- b . 2 and 3 only
- c . 3 only
- d . None of the above

- 1 mins 48 s
- Explanation
- Status

- Ans (c)

Explanation:

Cold water currents in Pacific Ocean are:

1. Peru current
2. California current
3. Okhotsk current
4. South Pacific current

Warm ocean currents:

1. British Colombia current
2. Kuroshio current
3. Oyashio current
4. East Australia current
5. North Pacific current
6. North Equatorial current
7. South Equatorial current

•

- 30) .Consider the following statements regarding Bhitarkanika National Park

1. It is surrounded by Gahirmatha Beach
2. It is known for salt water crocodiles.
3. It is located in the mouth of Mahanadi Delta.

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

- 0 mins 11 s
- Explanation
- Status

- Ans (c)

Explanation: Bhitarkanika

- Bhitarkanika National Park is a national park located in the Kendrapara District Odisha in eastern India.
- The national park is surrounded by the Bhitarkanika Wildlife Sanctuary. Gahirmatha Beach and Marine Sanctuary lies to the east, and separates swamp region cover with canopy of mangroves from the Bay of Bengal. Thus it become a vicinity of rich biodiversity
- Gahirmatha Beach is a beach in the Indian state of Odisha. The beach separates the Bhitarkanika mangroves from the Bay of Bengal and is the world's most important nesting beach for Olive Ridley Sea Turtles.
- The Bhitarkanika Mangroves cover an area of 650 km² in the river delta of the Brahmani

and Baitarani rivers.

- The Bhitarkanika Mangroves are home to 55 of India's 58 known mangrove species.

The

mangroves harbor one of India's largest populations of saltwater crocodiles, and

Gahirmatha Beach, which separates the mangroves from the Bay of Bengal, is the world's most important nesting beach for olive ridley sea turtles.

- 31) .Punjab is prominently known for which of the following goods?

1. Bicycles
2. Sports goods
3. Housing goods
4. Wooden goods
5. Silk products

Select the correct answer using the code given below:

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

- 0 mins 9 s
- Explanation
- Status

- Ans (a)

Explanation: Punjab industry

- Jalandhar provides goods like glass and furniture to neighbouring cities and is a hub of sports goods manufacture for international market. Jalandhar is famous for its sports industry, whose products are used by the likes of Sachin Tendulkar, Saurav Ganguly, and Steve Waugh, among countless other cricket heroes. Since 90 per cent of the cricket equipment used all over the world is manufactured in India, with Jalandhar contributing nearly 30 to 35 per cent, it would not be far-fetched to say that Jalandhar figures every time a cricket match is played.

- Ludhiana is Asia's largest hub for bicycle manufacturing and produces more than 50% of

India's bicycle consumption of more than 10 million each year

- Dhariwal is most famous for its woollen mill.

- Ludhiana in Punjab is the largest centre of Hosiery manufacturing in India.

-

- 32) .Consider the following properties of soil:

1. Soils with low lime content are called acidic soils.
2. Soils with fairly equal proportion of sand, silt and clay are called Loams.

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

- 0 mins 17 s
- Explanation
- Status

- Ans (c)

Explanation:

- Each soil type has physical properties like its colour, texture and the structure. Texture refers to the mixture of different soil particles grading from coarse into fine grades of gravel, sand, silt and the clay. Loam soils contain about equal proportions of sand, silt and clay. Loams are termed as sandy loam, silty loam and the clayey loam depending upon the preponderance of sand, silt or clay respectively.
- Chemical properties: Soils with low lime content are called acidic and those with high lime content are called alkaline.

•

- 33) .With reference to Income Declaration Scheme, consider the following statements:
1. Those declared income under this scheme are completely immune from any prosecution under Income Tax Act and Wealth Tax Act
2. Krishi Kalyan Surcharge levied upon the undisclosed income will be used for agriculture and rural economic development.

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

- 0 mins 24 s
- Explanation
- Status

- Ans (d)

Explanation: Income Declaration Scheme

- The Income Declaration Scheme, 2016 incorporated in the Finance Act 2016 provides an opportunity to all persons who have not declared income correctly in earlier years to come forward and declare such undisclosed income(s).
- Under the Scheme, such income as declared by the eligible persons, would be taxed at the rate of 30% plus a 'Krishi Kalyan Cess' of 25% on the taxes payable and a penalty at

the rate of 25% of the taxes payable, thereby totalling to 45% of the income declared under the scheme.

- The scheme shall remain in force for a period of 4 months from 1st June, 2016 to 30th September, 2016 for filing of declarations and payments towards taxes, surcharge & penalty must be made latest by 30th November, 2016.
- The scheme shall apply to undisclosed income whether in the form of investment in assets or otherwise, pertaining to Financial Year 2015-16 or earlier.
- Where the declaration is in the form of investment in assets, the Fair Market Value of such asset as on 1st June 2016 shall be deemed to be the undisclosed income under the Scheme. However, foreign assets or income to which the Black Money Act 2015 applies are not eligible for declaration under this scheme.
- No Scrutiny and enquiry under the Income-tax Act shall be undertaken in respect of such declarations.
- Immunity from prosecution under the Income-tax Act and Wealth Tax Act is also provided along with immunity from the Benami Transactions (Prohibition) Act, 1988 subject to transfer of asset to actual owner within the period specified in the Rules.
- Wealth Tax has been abolished. In second statement it is not surcharge actually it is cess.

•

- 34) .Consider the following statements regarding the Deendayal Upadhyay Swaniyojan yojana:

1. It is being designed by the Ministry of Rural Development.
2. It promotes rural entrepreneurship by providing financial incentives to the rural poor looking for self-employment options.
3. It will be integrated with MUDRA yojana, innovative credit linkages and self-help groups.

Which of the given above statements is/are correct?

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

- 0 mins 6 s
- Explanation
- Status

- Ans (d)

Explanation: Deendayal Upadhyay Swaniyojan yojana

• The Government has announced an overarching scheme for uplift of urban and rural poor through enhancement of livelihood opportunities through skill development and other means.

• The scheme has been named as ‘Deen Dayal Antyodaya Yojana – DAY’. It will be backed

by Mudra Bank Loans, self-help groups and various other credit facilities.

- Rural Development Ministry is designing this scheme and DUSY will be funded under the

National Rural Livelihood Mission of the Rural Development Ministry.

- The rural development ministry is also in talks with some other government departments

such as textile, animal husbandry, and food processing to help rural poor setup their own business in these fields.

•

- 35) .Consider the following pairs:

Type of Clouds

1. Cumulonimbus

-

2. Cirrus

-

3.Nimbostratus

-

Characteristics

A dark dull cloud with layers brings Cor

Fibrous clouds indicating fair weather

Vertical height cloud in cauliflower sha
with thunder and lightning.Which of th
correctly matched?

a . 1 only

b . 2 only

c . 3 only

d . 1, 2 and 3

- 0 mins 13 s
- Explanation
- Status

- Ans (b)

Explanation: The classification of clouds is based on a combination of form, height and appearance. Four major cloud types and their variations can be recognised.

- High Clouds: mainly cirrus of feathery form at 20-40000 feet above the ground.

- **Cirrus:** This look fibrous and appears like wisps in the blue sky; it is often called ‘mares’

tails’. It indicates fair weater, and often gives a brilliant sunset.

- **Medium clouds:** mainly alto or middle height clouds at 7- 20000 feet.

- **Low clouds:** mainly stratus or sheet clouds below 7000 feet.

- **Nimbostratus:** This is a dark, dull cloud, clearly layered, and is also known as a ‘rain cloud’. It brings continuous rain , snow or sleet.

- Clouds with great vertical extent: Mainly cumulous or heap clouds with no definite height (2-30000 feet).

- **Cumulonimbus:** This is an overgrown cumulus cloud, extending for a tremendous vertical height from a base of 2000 feet to over 30000 feet. Its black and white globular

masses take a fantastic range of shapes. Its cauliflower top often spreads out like an anvil. This is frequently seen in tropical afternoons. It is also referred to as a 'thundercloud' and bring convectional rain, accompanied by lightning and thunder.

•

- 36) .Consider the following winds

1. Mistral
2. Sirocco
3. Chinook

Which of the following is/are not the Mediterranean winds?

- a . 1 and 2 only
- b . 2 and 3 only
- c . 3 only
- d . None of the above

- 1 mins 13 s
- Explanation
- Status

- Ans (c)

Explanation:

- Local winds in Mediterranean Sea are:
- **Hot winds:** Sirocco, Chili, Ghibli, Khamsin, Leveche, Gharbi
- **Cold winds:** Mistral, Levante, Bora, Gregale, Tramontana.
- Chinook is an ice-eater is prevalent in interior West of North America where the Canada Prairies and Great Plains meet various mountain ranges. It is a dry warm wind from the ocean into the regions of the USA.

•

- 37) .Consider the following statements regarding Coriolis force:

1. Coriolis force is responsible for deflecting wind towards right in the northern hemisphere and towards the left in the southern hemisphere.
2. The Coriolis force is minimum at the poles and maximum at the equator.

Which of the above mentioned statements is/are not correct?

- a . 1 only
- b . 2 only
- c . Both 1 and 2
- d . Neither 1 nor 2

- 0 mins 11 s
- Explanation
- Status

- Ans (b)

Explanation:

- The Coriolis Effect (also called the Coriolis force) is defined as the apparent deflection of

objects (such as airplanes, wind, missiles, and ocean currents) moving in a straight path relative to the earth's surface. Its strength is proportional to the speed of the earth's rotation at different latitudes but it has an impact on moving objects across the globe.

- The main cause of the Coriolis Effect is the earth's rotation. As the earth spins in a counter-clockwise direction on its axis anything flying or flowing over a long distance above its surface is deflected. This occurs because as something moves freely above the earth's surface, the earth is moving east under the object at a faster speed. As latitude increases and the speed of the earth's rotation decreases, Coriolis Effect increases.

-

- 38) .Consider the following statements regarding the factors which controls the atmospheric temperature of the given place:

1. Differential heating of land and water
2. Ocean currents
3. Altitude and geographic position
4. Cloud cover and albedo.

Which of the statements given above is/are Correct?

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

- 0 mins 19 s
- Explanation
- Status

- Ans (d)

Explanation:

- Differential heating of land and water: The oceans and the land heat up and retain heat at different rates, at differential rates. This heating and cooling differential affects local temperatures resulting in varying inland and Oceanside temperatures in relatively closely related vicinities.

- Ocean currents: Directional movements of ocean currents affects land temperatures. Worldwide current movements are complex patterns that are affected by several things: ocean bottom topography; earth's rotation; ocean salinity; ocean heat content; and wind (Smithsonian, Ocean Planet). As these patterns move across the oceans, land masses are either warmed or cooled. A change to any factors affecting surface (surface circulation) or

deep currents (Thermohaline circulation) can alter the effects of ocean currents on atmospheric temperatures.

- **Altitude:** Various altitudes have corresponding air pressure and air density that affect atmospheric temperature. As altitude increases from sea level, air pressure and air density inversely decrease. Correspondingly, atmospheric temperature also decreases as altitude increases. There is a direct correlation between air pressure, air density and temperature while there is the inverse, an indirect correlation between altitude and temperature.
- **Geographic position:** Atmospheric temperatures tend to be similar on geographic distribution from east to west while temperatures tend to vary greatly in geographic distribution from north to south. Temperature decreases in a pole-ward direction while staying relatively equal in an east-west direction.
- **Cloud cover:** Clouds affect temperature because they are a collection of frozen particles that have a cooling effect; they drop precipitation which cools; and they reflect and radiate heat into the space, outside Earth's atmosphere. By reflecting heat, clouds insure a stability of temperature so Earth doesn't overheat. By dropping precipitation, clouds cool the heat accumulation.
- **Albedo:** The fractional amount of solar energy reflected back into space, as in when heat is reflected off clouds and radiated back into space. Below clouds, Earth's surfaces produce various amounts of albedo. For example, ice has a high albedo while water has a low albedo.

•

- 39) .Consider the statements regarding earthquake waves:
 1. Primary waves are similar to sound waves and it can travel through liquid medium.
 2. Secondary waves are similar to water ripples and it cannot pass through liquid medium.
 3. Surface waves are most destructive and slowest among the three waves (primary, secondary, surface waves).

Which of the statements given above is/are not correct?

- a . 1 and 2 only
- b . 3 only
- c . 1 and 3 only
- d . None of the above

- 0 mins 38 s
- Explanation
- Status

- Ans (d)

Explanation:

- The first kind of body wave is the **P wave or primary wave**. This is the fastest kind of seismic wave, and, consequently, the first to 'arrive' at a seismic station. The P wave can move through solid rock and fluids, like water or the liquid layers of the earth. P Waves are compressional which means they move through (compress) a solid or liquid by pushing or pulling similar to the way sound travels through the air.

- The second type of body wave is the **S wave or secondary wave**, which is the second wave you feel in an earthquake. An S wave is slower than a P wave and can only move through solid rock, not through any liquid medium. It is not the Secondary waves that are similar to water ripples. It is the Rayleigh waves that are similar to water ripples.
- Travelling only through the crust, **surface waves** are of a lower frequency than body waves, and are easily distinguished on a seismogram as a result. Though they arrive after body waves, it is surface waves that are almost entirely responsible for the damage and destruction associated with earthquakes. This damage and the strength of the surface waves are reduced in deeper earthquakes.

•

- 40) .Arrange the following in the order in which they form, starting from the coast line:

1. Continental slope
2. Mid-oceanic ridges
3. Abyssal plain
4. Continental shelf
5. Deep-oceanic trench

Select the correct answer using the codes given below:

- a . 4 – 1 – 3 – 5 – 2
- b . 4 – 1 – 5 – 3 – 2
- c . 1 – 4 – 5 – 3 – 2
- d . 1 – 4 – 3 – 2 – 5

- 0 mins 31 s
- Explanation
- Status

- Ans (b)



- 41) .Which of the following indicates sea floor spreading?

1. Volcanic activity along the mid-oceanic ridges
2. Stripes of normal and reverse magnetic field observed in rocks of ocean floor
3. Age of rocks from the ocean floor

Select the correct answer using the codes given below:

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

- 0 mins 21 s
- Explanation
- Status

- Ans (d)

Explanation:

• The mapping of the ocean floor and palaeomagnetic studies of rocks from oceanic regions

revealed the following facts:

- Rocks closer to the mid-oceanic ridges have normal polarity and are the youngest. The age of the rocks increases as one moves away from the crest.
- Nowhere was the sediment column found to be older than 200 million years.
- Constant eruptions at the crest of oceanic ridges cause the rupture of the oceanic crust

and the new lava wedges into it, pushing the oceanic crust on either side. The ocean floor thus spreads.

•

- 42) .Which of the following are the factors affecting distribution of Ocean Salinity?

1. Evaporation
2. Influx of fresh river waters.
3. Ocean Currents
4. Atmospheric pressure belts
5. Precipitation
6. Shape of Ocean/Sea

Select the correct answer using the codes given below:

- a . 1, 2, 3, 5 and 6 only
- b . 1, 2, 3, 4 and 5 only
- c . 1, 2, 3, 5 and 6 only
- d . 1, 2, 3, 4, 5 and 6

- 1 mins 24 s
- Explanation
- Status

- Ans (d)

Explanation: Evaporation, precipitation, river water, temperature, atmospheric pressure, wind direction and the movements of sea water are responsible in controlling the salinity. Higher rate of evaporation as in the sub-tropical ocean is resulting in high salinity. The high

precipitation along the equatorial region reduces the salinity, therefore low salinity occurs.

Similarly large quantity of fresh water from melting of snow is added in the region of Baltic

Sea, thus reducing the salinity. When trade winds carry saline water away, upwelling of cool

water reduce the salinity. The tides the ocean current help in mixing of surface water thus controlling the salinity. Yearly periodic variations are strongly felt in the enclosed seas.

•

- 43) .Which of the following statements are correct regarding Mid-latitude cyclones?

1. They usually move across North-America from east to west
2. They are generally found only over the Ocean
3. They generally bring clear skies and little precipitation
4. They are formed in regions of strong temperature contrasts

Select the correct answer using the codes given below:

- a . 1, 3 and 4 only

- b . 3 and 4 only
- c . 4 only
- d . 1, 2, 3 and 4

- 0 mins 16 s
- Explanation
- Status

- Ans (c)

Explanation:

- Usually move across North-America from west to east under the influence of westerlies.
- Can be found over both the oceans and continents.
- Mid-latitude cyclones can produce a wide variety of precipitation types. Precipitation types include: rain, freezing rain, hail, sleet, snow pellets, and snow. Frozen forms of precipitation (except hail) are common with storms that occur in the winter months. Hail is associated with severe thunderstorms that form along or in front of cold fronts during spring and summer months.
- Mid-latitude cyclones are the result of the dynamic interaction of warm tropical and cold polar air masses at the polar front with strong temperature contrasts.

•

- 44) .Which of the following state(s) in India have enforced Uniform civil code for its citizens?

1. Jammu and Kashmir
2. Goa
3. Dadra and Nagar Haveli
4. Daman and Diu
5. Pondicherry

Select the correct answer using the code given below:

- a . 2 only
- b . 1 and 2 only
- c . 2, 3 and 4 only
- d . All of the above

- 0 mins 11 s
- Explanation
- Status

- Ans (a)

Explanation:

Uniform Civil Code

- Uniform civil code is the proposal to replace the personal laws based on the scriptures

and customs of each major religious community in India with a common set governing every citizen. These laws are distinguished from public law and cover marriage, divorce, inheritance, adoption and maintenance. Article 44 of the Directive Principles in India sets its implementation as duty of the State.

- Goa is the only state in India which has a uniform civil code. The Goa Family Law, is the set of civil laws, originally the Portuguese Civil Code, continued to be implemented after its annexation in 1961. It is also applicable in the Union Territories of Dadra and Nagar Haveli and Daman and Diu.

-

- 45) .Which of the following industries fall under Red category of Polluting Industries?

1. Glass manufacturing
2. Paper industry
3. Soap Manufacturing

Select the correct answer using the code given below:

- a . 1 only
- b . 2 only
- c . 2 and 3 only
- d . All of the above

- 0 mins 12 s
- Explanation
- Status

- Ans (b)

Explanation: Please refer <http://pib.nic.in/newsite/PrintRelease.aspx?relid=137373>

- The Government released a new categorization of industries based on their pollution load.

The new category of White industries which is practically non-polluting will not require Environmental Clearance (EC) and Consent and will help in getting finance from lending institutions.

- The old system of categorization was creating problems for many industries and was not

reflecting the pollution of the industries. The new categories will remove this lacuna and will give clear picture to everyone. 25 industrial sectors which were not critically polluting

were also earlier categorized as Red.

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has developed the

criteria of categorization of industrial sectors based on the Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants), hazardous wastes generated and consumption of resources. For this purpose the references are taken from the Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003, Standards

so far prescribed for various pollutants under Environment (Protection) Act , 1986 and Doon Valley Notification, 1989 issued by MoEFCC. The Pollution Index PI of any industrial sector is a number from 0 to 100 and the increasing value of PI denotes the increasing degree of pollution load from the industrial sector. Based on the series of brainstorming sessions among CPCB, SPCBs and MoEFCC , the following criteria on 'Range of

Pollution Index 'for the purpose of categorization of industrial sectors is finalized.

1. Industrial Sectors having Pollution Index score of 60 and above - Red category
2. Industrial Sectors having Pollution Index score of 41 to 59 - Orange category
3. Industrial Sectors having Pollution Index score of 21 to 40 - Green category
4. Industrial Sectors having Pollution Index score incl. & upto 20 - White category

I. List of Industries under 'RED' Category

A. Industries identified by Ministry of Environment & Forests, Govt. of India as heavily polluting and covered under Central Action Plan, viz.

- (1) Distillery including Fermentation industry.
- (2) Sugar (excluding Khandsari)
- (3) Fertiliser.
- (4) Pulp & Paper (Paper manufacturing with or without pulping).
- (5) Chlor alkali
- (6) Pharmaceuticals (Basic) (excluding formulation).
- (7) Dyes and Dye-intermediates.
- (8) Pesticides (Technical) (excluding formulation).
- (9) Oil refinery (Mineral oil or Petro refineries).
- (10) Tanneries
- (11) Petrochemicals (Manufacture of and not merely use of as raw material).
- (12) Cement
- (13) Thermal power plants
- (14) Iron and Steel (Involving processing from ore/ scrap/Integrated steel plants)
- (15) Zinc smelter
- (16) Copper smelter
- (17) Aluminium smelter

B. Industries manufacturing following products or carrying out following activities

- (1) Tyres and tubes Vulcanisation/Retreading/ moulding).
- (2) Synthetic rubber.
- (3) Glass and fibre glass production and processing.
- (4) Industrial carbon including electrodes and graphite blocks, activated carbon, carbon black etc.
- (5) Paints and varnishes (excluding blending/mixing).
- (6) Pigments and intermediates.
- (7) Synthetic resins.
- (8) Petroleum products involving storage, transfer or processing.
- (9) Lubricating oils, greases or petroleum - based products.
- (10) Synthetic fibre including rayon, tyre cord, polyester filament yarn.
- (11) Surgical and medical products involving prophylactics and latex.
- (12) Synthetic detergent and soap.
- (13) Photographic films and chemicals.

- (14) Chemical, petrochemical and electrochemicals including manufacture of acids such as Sulphuric Acid, Nitric Acid, Phosphoric Acid etc.
- (15) Industrial or inorganic gases.
- (16) Chlorates, perchlorates and peroxides.
- (17) Glue and gelatine.
- (18) Yarn and textile processing involving scouring, bleaching, dyeing, printing or any effluent/emission generating process.
- (19) Vegetable oils including solvent extracted oils, hydro-generated oils.
- (20) Industry or process involving metal treatment or process such as picking, surface coating, paint baking, paint stripping, heat treatment, phosphating or finishing etc.
- (21) Industry or process involving electroplating operations.
- (22) Asbestos and asbestos-based industries.
- (23) Slaughter houses and meat processing units.
- (24) Fermentation industry including manufacture of yeast, beer etc.
- (25) Steel and steel products including coke plants involving use of any of the equipment's such as blast furnaces, open hearth furnace, induction furnace
- (26) Incineration plants
- (27) Power generating plants (excluding D.G. Sets).
- (28) Lime manufacturing
- (29) Tobacco products including cigarettes and tobacco processing.
- (30) Dry coat processing/ Mineral processing industries like ore sintering, palletization, etc.
- (31) Phosphate rock processing plants.
- (32) Coke making, coal liquefaction, coaltar distillation or fuel gas making.
- (33) Phosphorous and its compounds.
- (34) Explosives including detonators, fuses etc.
- (35) Fire crackers.
- (36) Processes involving chlorinated hydrocarbons.
- (37) Chlorine, fluorine, bromine, iodine and their compounds.
- (38) Hydrocyanic acid and its derivatives.
- (39) Milk processing and dairy products (Integrated Project).
- (40) Industry or process involving foundry operations.
- (41) Potable alcohol (IMFL) by blending or distillation of alcohol.
- (42) Anodizing.
- (43) Ceramic/ refractories.
- (44) Lead processing and battery reconditioning & manufacturing including lead smelting.
- (45) Hot Mix plants
- (46) Hospitals
- (47) Mining and ore-beneficiation

II. List of Industries 'ORANGE' Category.

- (1) Manufacture of mirror from sheet glass and photo framing.
- (2) Cotton spinning and weaving.
- (3) Automobile servicing and repairs stations.
- (4) Hotels and restaurants.
- (5) Flour mills (excluding Domestic Aatta Chakki)

- (6) Malted food.
- (7) Food including fruits and vegetable processing.
- (8) Pulping and fermenting of coffee beans.
- (9) Instant tea/coffee, coffee processing.
- (10) Non-alcoholic beverages (soft drinks)
- (11) Fragrances and industrial perfumes.
- (12) Food additives, nutrients and flavours.
- (13) Fish processing.
- (14) Organic nutrients.
- (15) Surgical and medical products not involving effluent/ e mission generating processes.
- (16) Laboratory-wares.
- (17) Wire drawing (cold process) and bailing straps.
- (18) Stone crushers.
- (19) Laboratory chemicals involving distillation, purification process.
- (20) Tyres and tubes vulcanisation, vutcanisation, retreading, moulding.
- (21) Pesticides/Insecticides/ Fungicides/ Herbicides/ Agro chemical formulation.
- (22) NPK Fertilisers/ Granulation.
- (23) Pharmaceuticals formulation.
- (24) Khandsari sugar.
- (25) Pulverizing units.

III. List of Industries under "GREEN" category'.

A. Industries in Small Scale, Cottage/Village category suggested under notification of the State

Government/Union Territory for issuance of simplified NOC/Consent from State Pollution

Control Board/Pollution Control Committee, as the case may be.

B. All those industries or processes which are not covered under the "Red" and/or "Orange"

category; An illustrative list is provided below.

- (1) Wasting of used sand by hydraulic discharge.
- (2) Atta-chakkies.
- (3) Rice mull.ors.
- (4) Steeping and processing of grains.
- (5) Mineralised water.
- (6) Dal mills.
- (7) Bakery products, biscuits confectionery.
- (8) Groundnut decorticating (dry).
- (9) Supari (Betelnut) and masala grinding.
- (10) Chilling plants and cold storages.
- (11) Ice-cream or Ice-making.
- (12) Tailoring and garment making.
- (13) Cotton and woolen hosiery.
- (14) Apparel making
- (15) Handloom weaving
- (16) Shoelace manufacturing

- (17) Gold and silver thread zari work.
- (18) Gold and silver smithy.
- (19) Leather footwear and leather products excluding tanning and hide processing.
- (20) Musical instruments manufacturing.
- (21) Sports goods.
- (22) Bamboo and cane products (only dry operations)
- (23) Cardboard or corrugated box and paper products (Paper or pulp manufacturing excluded).
- (24) Insulation and other coated papers (Paper or pulp manufacturing excluded).
- (25) Scientific and mathematical instruments.
- (26) Furniture (wooden and steel).
- (27) Assembly of domestic electrical appliances.
- (28) Radio assembling.
- (29) Fountain pens.
- (30) Polythene, plastic and P.V.C. goods through extrusion moulding.
- (31) Rope (cotton and plastic).
- (32) Carpet weaving.
- (33) Assembly of air coolers, conditioners.
- (34) Assembly of bicycles, baby carriage and other small non-motorised vehicles.
- (35) Electronics equipment (Assembly).
- (36) Toys.
- (37) Water softening and demineralised plants.
- (38) Paint (by mixing process only).
- (39) Candles.
- (40) Carpentry (excluding saw mill).
- (41) Oil ginning/expelling (no hydrogenation/refining).
- (42) Jobbing and machining.
- (43) Manufacture of steel trunks and suitcases.
- (44) Paper pins and U-clips.
- (45) Block making for printing.
- (46) Optical frames.
- (47) Powerlooms./handlooms (without dyeing & bleaching).
- (48) Printing press.
- (49) Garments stitching, tailoring.
- (50) Thermometer making.
- (51) Footwear (rubber).
- (52) Plastic processed goods.
- (53) Medical and surgical instruments
- (54) Electronic and electrical goods.
- (55) Rubber goods industry.

•

• 46) .**Consider the following statements:**

1. Seasonal reversal of wind is typical characteristic of Mediterranean climate

2. Climate determined by Ocean winds is the main characteristic of Equatorial Climate
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

- 0 mins 22 s
- Explanation
- Status

- Ans (d)

Explanation:

- Seasonal reversal of wind is typical characteristic of Monsoon climate.
- Climate determined by Ocean winds is the main characteristic of Maritime or British type of Climate.

•

• 47) .The term ‘Air gapping’ is associated with :

- a . Nuclear security
- b . Cyber security
- c . Space security
- d . Border security

- 0 mins 6 s
- Explanation
- Status

- Ans (b)

Explanation: Air Gapping

Air gapping is a network security measure employed on one or more computers to ensure that a secure computer network is physically isolated from unsecured networks, such as the public Internet or an unsecured local area network. The name arises from the technique of creating a network that is physically separated (with a conceptual air gap) from all other networks.

•

• 48) .With reference to Setu Bharatam project, consider the following statements:

1. It aims to connect riverine islands across India with the mainland.
2. It aims to make all national highways free from railway level crossings.

3. It aims to provide high speed broadband connectivity to all villages in India

Which of the given above statements is correct?

- a . 3 only
- b . 1 only
- c . 2 only
- d . None of the above

- 0 mins 14 s
- Explanation
- Status

- Ans (c)

Explanation: Setu Bharatam

Setu Bharatam programme aims to make all National Highways free of railway level crossings

by 2019. This is being done to prevent the frequent accidents and loss of lives at level crossings.

-

• 49) **.Consider the following statements**

1. Eclipses do not occur on every full moon and new moon day.

2. Spring tide occurs when the sun, the earth and the moon come in the position of quadrature.

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

- 0 mins 31 s
- Explanation
- Status

- Ans (a)

Explanation:

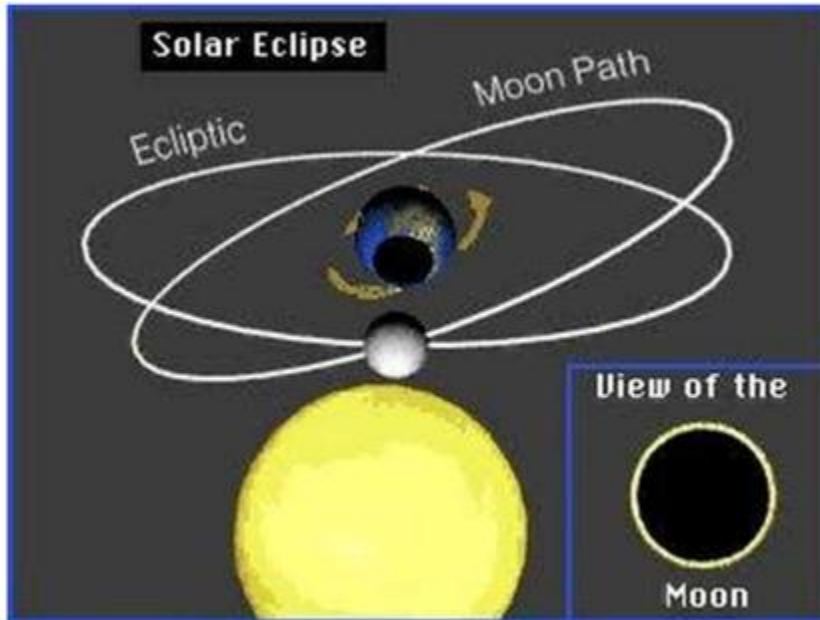
- There are typically 12 full moons and 12 new moons every year, but only four to seven eclipses.

- The moon takes about a month to orbit around the Earth. If the moon orbited in the same plane as the ecliptic – Earth's orbital plane – we would have two eclipses every month. There'd be an eclipse of the moon at every full moon. And, two weeks later, there'd be an eclipse of the sun at new moon for a total of at least 24 eclipses every year.

- But the moon's orbit is inclined to Earth's orbit by about 5 degrees. Twice a month the moon intersects the ecliptic – Earth's orbital plane – at points called nodes. If the moon is going from south to north in its orbit, it's called an ascending node. If the moon is going

from north to south, it's a descending node. If the full moon or new moon is appreciably close to one of these nodes, then an eclipse is not only possible – but inevitable.

- Spring tide occurs when the sun , the moon , and the earth in the straight line.



•

- 50) .Which of the following conditions is/are conducive for the formation of tropical cyclones?

1. Large and continuous supply of warm and moist air.
2. Large value of Coriolis force
3. Outflow of air at the upper of atmosphere.

Select the correct answer using the code given below

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

- 0 mins 18 s
- Explanation
- Status

- Ans (d)

Explanation: While six factors appear to be generally necessary, tropical cyclones may occasionally form without meeting all of the following conditions. In most situations, water

temperatures of at least 26.5 °C (79.7 °F) are needed down to a depth of at least 50 m (160

ft); waters of this temperature cause the overlying atmosphere to be unstable enough to

sustain convection and thunderstorms. Another factor is rapid cooling with height, which allows the release of the heat of condensation that powers a tropical cyclone. High humidity is needed, especially in the lower-to-mid troposphere; when there is a great deal of moisture in the atmosphere, conditions are more favourable for disturbances to develop. Low amounts of wind shear are needed, as high shear is disruptive to the storm's circulation. Tropical cyclones generally need to form more than 555 km (345 mi) or five degrees of latitude away from the equator, allowing the Coriolis Effect to deflect winds blowing towards the low pressure centre and creating a circulation. Lastly, a formative tropical cyclone needs a preexisting system of disturbed weather. Tropical cyclones will not form spontaneously. Low latitude and low-level westerly wind bursts associated with the Madden-Julian oscillation can create favourable conditions for tropical cyclogenesis by initiating tropical disturbances.

- 51) .Which of the following statements regarding the duration of day and night is correct?
 - a . Difference is maximum at the Tropics and progressively decreases towards the Equator and Poles.
 - b . Difference is maximum at the Equator and progressively decreases away from it.
 - c . Difference is least at the Tropics and progressively increases towards the Equator and Poles.
 - d . Difference is least near the Equator and progressively increases away from it.

- 0 mins 39 s
- Explanation
- Status

- Ans (d)

Explanation:

- Length of Day and Night at the equator is nearly equal throughout the year (very less difference)
- It progressively increases from Equator towards the Poles, where it is maximum.

•

- 52) .The innermost region of Tropical Cyclone is known as eye, where
 - a . Temperature is highest and pressure is the lowest.
 - b . Temperature is lowest and pressure is the highest.
 - c . Sky is clear and temperature is the lowest.
 - d . Sky is under dense cloud cover and pressure is lowest.

- 0 mins 19 s
- Explanation
- Status

- Ans (a)

Explanation: A characteristic feature of tropical cyclones is the eye, a central region of clear skies, warm temperatures, and low atmospheric pressure. Typically, atmospheric pressure at the surface of Earth is about 1,000 millibars. At the centre of a tropical cyclone, however, it is typically around 960 millibars, and in a very intense “super typhoon” of the western Pacific it may be low.

•

- 53) .Consider the following statements:

1. Long wave terrestrial radiation is an infrared radiation and is largely responsible for the heating of the atmosphere.

2. Sun emits Short wave radiation which does not have any traces of infrared radiation.

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

- 0 mins 24 s
- Explanation
- Status

- Ans (a)

Explanation: The Sun radiates energy mainly in the form of visible light, with small amounts of ultraviolet and infrared radiation.

•

- 54) .With reference to Hydrocarbon Exploration and Licensing Policy, consider the following statements:

1. Revenue sharing model of fiscal system replaces the old Production sharing contract model of fiscal system.

2. Uniform license will be issued to the hydrocarbon exploration company to explore all types of hydrocarbons.

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

- 0 mins 11 s
- Explanation
- Status

- Ans (b)

Explanation: The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, has

approved the **Hydrocarbon Exploration and Licensing Policy (HELP)**.

- Four main facets of this policy are:

- i. Uniform license for exploration and production of all forms of hydrocarbon,

- ii. An open acreage policy,

- iii. Easy to administer revenue sharing model and

- iv. Marketing and pricing freedom for the crude oil and natural gas produced.

- The decision will enhance domestic oil & gas production, bring substantial investment in

the sector and generate sizable employment. The policy is also aimed at enhancing transparency and reducing administrative discretion.

- The uniform licence will enable the contractor to explore conventional as well as unconventional oil and gas resources including CBM, shale gas/oil, tight gas and gas hydrates under a single license. The concept of Open Acreage Policy will enable E&P companies choose the blocks from the designated area.

- Present fiscal system of production sharing based on Investment Multiple and cost recovery /production linked payment will be replaced by a easy to administer revenue sharing model. The earlier contracts were based on the concept of profit sharing where profits are shared between Government and the contractor after recovery of cost. Under the profit sharing methodology, it became necessary for the Government to scrutinize cost

details of private participants and this led to many delays and disputes. Under the new regime, the Government will not be concerned with the cost incurred and will receive a share of the gross revenue from the sale of oil, gas etc. This is in tune with Government's policy of "Ease of Doing Business".

- Recognising the higher risks and costs involved in exploration and production from offshore areas, lower royalty rates for such areas have been provided as compared to NELP royalty rates to encourage exploration and production. A graded system of royalty rates have been introduced, in which royalty rates decreases from shallow water to deepwater and ultra-deep water. At the same time, royalty rate for onland areas have been kept intact so that revenues to the state governments are not affected. On the lines of NELP, cess and import duty will not be applicable on blocks awarded under the new policy. This policy also provides for marketing freedom for crude oil and natural gas produced from these blocks. This is in tune with Government's policy of "Minimum Government –Maximum Governance".

-

- 55) .The origin of ocean currents is influenced by many factors which include:

1. Temperature
2. Salinity
3. Earth's rotation

Select the correct answer using the code given below:

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

- 0 mins 54 s
- Explanation
- Status

- Ans (d)

Explanation:

- Surface currents are generated largely by wind. Their patterns are determined by wind direction, Coriolis forces from the Earth's rotation, and the position of landforms that interact with the currents. Surface wind-driven currents generate upwelling currents in conjunction with landforms, creating deepwater currents.
- Currents may also be generated by density differences in water masses caused by temperature and salinity variations. These currents move water masses through the deep ocean—taking nutrients, oxygen, and heat with them.
- Occasional events also trigger serious currents. Huge storms move water masses. Underwater earthquakes may trigger devastating tsunamis. Both move masses of water inland when they reach shallow water and coastlines. Earthquakes may also trigger rapid down slope movement of water-saturated sediments, creating turbidity currents strong enough to snap submarine communication cables.

•

- 56) . Consider the following

1. Rate of insolation
2. Unequal distribution of land and water
3. Prevailing Wind
4. Ocean Currents

Which of the above mentioned factors is/are responsible for affecting temperature distribution of Ocean Water?

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

- 1 mins 6 s
- Explanation

- Status

- Ans (d)

Explanation: Factors Affecting Temperature Distribution of Ocean water

• **Latitude:** the temperature of surface water decreases from the equator towards the poles

because the amount of insolation decreases pole ward.

• **Unequal distribution of land and water:** the oceans in the northern hemisphere receive more heat due to their contact with larger extent of land than the oceans in the southern hemisphere.

• **Prevailing wind:** the winds blowing from the land towards the oceans drive warm surface

water away from the coast resulting in the upwelling of cold water from below. It results into the longitudinal variation in the temperature. Contrary to this, the onshore winds pile up warm water near the coast and this raises the temperature.

• **Ocean currents:** warm ocean currents raise the temperature in cold areas while the cold currents decrease the temperature in warm ocean areas. Gulf Stream (warm current) raises the temperature near the eastern coast of North America and the West Coast of Europe while the Labrador Current (cold current) lowers the temperature near the northeast coast of North America.

•

- 57) . Consider the following statements

1. Only sedimentary rocks transform into metamorphic rocks.

2. Both Sedimentary rocks and metamorphic rocks can transform into igneous rocks by weathering and erosion.

Which of the given above statements is/are correct?

a . 1 only

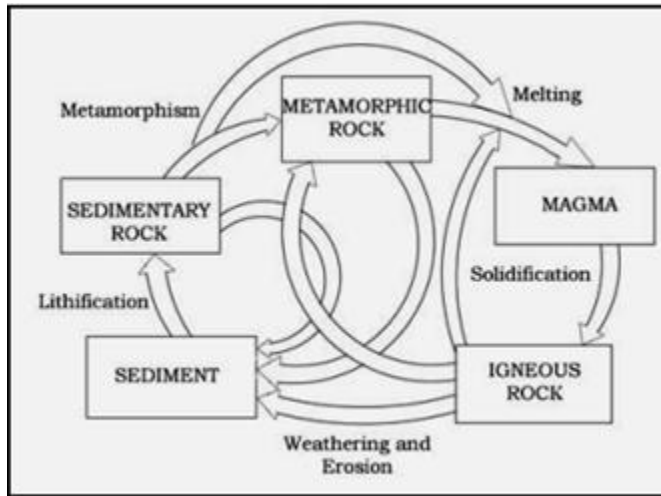
b . 2 only

c . Both 1 and 2

d . Neither 1 nor 2

- 0 mins 17 s
- Explanation
- Status

- Ans (d)



•

- 58) . Which of the following is/are Indian Arctic research stations?

1. Himadri
2. Maitri
3. Dakshin Gangotri
4. IndArc

Select the correct answer using the code given below:

- a . 1 and 4 only
- b . 4 only
- c . 1, 2 and 4 only
- d . All of the above

- 0 mins 8 s
- Explanation
- Status

- Ans (a)

Explanation:

Indian Antarctic Program:

- The Indian Antarctic Program is a multi-disciplinary, multi-institutional program under the control of the National Centre for Antarctic and Ocean Research, Ministry of Earth Sciences, Government of India.
- The program gained global acceptance with India's signing of the Antarctic Treaty and subsequent construction of the Dakshin Gangotri Antarctic research base in 1983, superseded by the Maitri base from 1990. The newest base commissioned in 2015 is Bharati. Under the program, atmospheric, biological, earth, chemical, and medical sciences are studied by India

Indian Arctic Program:

- Himadri Station is India's first Arctic research station [1] located at Spitsbergen, Svalbard, Norway. It was inaugurated on the 1st of July, 2008 by the Minister of Earth Sciences.
- IndARC - Established in August 2014. Designed and developed by scientists from the National Centre for Antarctic and Ocean Research (NCAOR) and National Institute of Ocean Technology (NIOT), the observatory has been deployed in the Kongsfjorden fjord of the Arctic, roughly halfway between Norway and the North Pole is named "IndARC".

•

- 59) . Consider the following statements

1. The terrestrial planets are closer to Sun compared to the Jovian planets
2. The terrestrial planets are smaller than the Jovian planets
3. Lower gravity and intense solar winds cause removal of gas from the terrestrial planets.

Which of the given above statements is/are correct?

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

- 0 mins 25 s
- Explanation
- Status

- Ans (d)

Explanation:

- Out of the eight planets, Mercury, Venus, Earth and Mars are called as the inner planets or terrestrial planets. Remaining four are called outer/ Jovian planets.
- The difference between these two can be attributed to the following conditions:
 1. The terrestrial planets were formed in the close vicinity of the parent star where it was too warm for gases to condense to solid particles.
 2. The solar wind was most intense nearer the sun; so, it blew off lots of gas and dust from the terrestrial planets.
 3. The terrestrial planets are smaller and their lower gravity could not hold the escaping gases.
 4. Comparing the moons, the Jovian planets have more moons than the terrestrial planets. Moreover, the Jovian planets tend to have rings around them, which are not seen in terrestrial planets.
 5. While the terrestrial planets spin less, the Jovian planets spin more, and due to this fact, the terrestrial planets tend to be less flattened at the poles.
 6. The terrestrial planets were much hotter when they were formed, and they cooled with time. The terrestrial planets were hit by meteorites during the early times, which made them so hot. This is why Earth and Venus have very hot interiors when compared to other planets.

-

- 60) . Consider the following statements:

1. Asteroids are large chunks of rock that come from the asteroid belt located between Mars and Jupiter.
2. Comets are composed of ice, methane and develop tail when it gets closer to Sun.
3. Meteoroid is a solid object smaller than the Asteroid and it becomes Meteorite when it impacts the Earth's surface.

Which of the statements given above is/are correct?

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

- 0 mins 27 s
- Explanation
- Status

- Ans (d)

Explanation:

- Comets are much like asteroids, but might have a more ice, methane, ammonia, and other compounds that develop a fuzzy, cloud-like shell called a coma – as well as a tail

—
when it gets closer to the Sun. Comets are thought to originate from two different sources: Long-period comets (those which take more than 200 years to complete an orbit around the Sun) originate from the Oort Cloud. Short-period comets (those which take less than 200 years to complete an orbit around the Sun) originate from the Kuiper Belt.

- Space debris smaller than an asteroid are called meteoroids. A meteoroid is a piece of interplanetary matter that is smaller than a kilometre and frequently only millimetres in size. A meteor also called shooting star, is the flash of light that we see in the night sky when a small chunk of interplanetary debris burns up as it passes through our atmosphere. “Meteor” refers to the flash of light caused by the debris, not the debris itself.

If any part of a meteoroid survives the fall through the atmosphere and lands on Earth, it is called a meteorite.

- 61) . Ox-bow lakes are the characteristics of which stage of the running water regime?

- a . Mature stage
- b . Old stage
- c . Youth stage
- d . All of the above

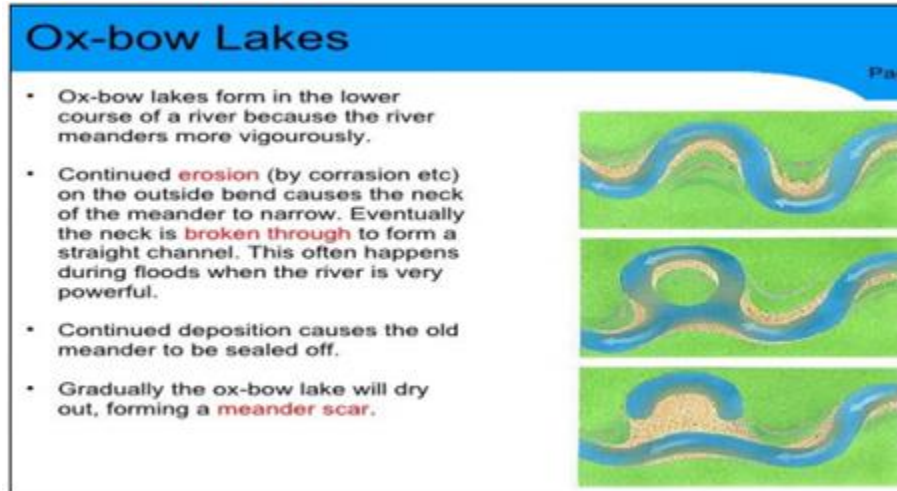
- 0 mins 13 s
- Explanation
- Status

- Ans (b)

Explanation: Old stage:

Smaller tributaries during old age are few with gentle gradients. Streams meander freely over

vast floodplains showing natural levees, oxbow lakes, etc. Divides are broad and flat with



•

- 62) . Consider the following statements regarding the features of earth's atmosphere:

1. Density is highest near the surface of the Earth and decreases with increasing altitude.
2. Ionosphere located above mesopause reflects back Radio waves to the Earth.
3. The air temperature at the tropopause over the equator is higher than the temperature over the poles.

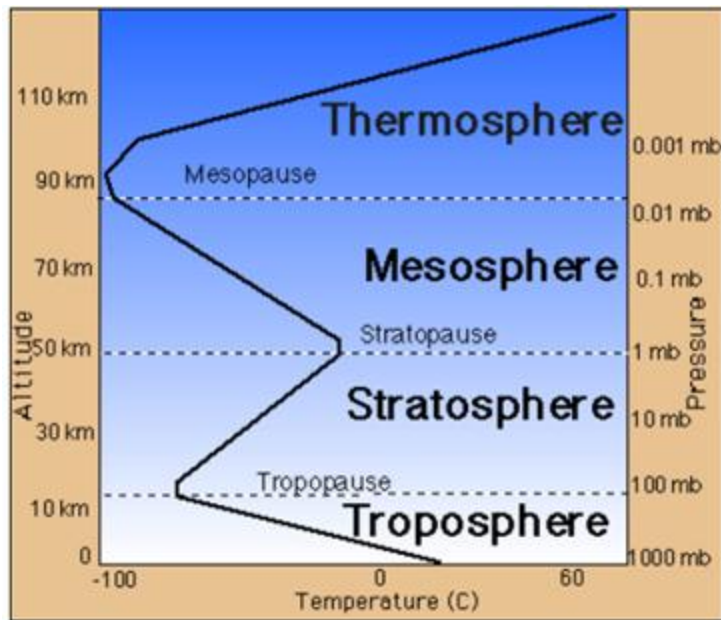
Which of the given above statements is/are correct?

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

- 2 mins 44 s
- Explanation
- Status

- Ans (b)

Explanation: Structure of the atmosphere:



- The troposphere is the lowermost layer of the atmosphere. Thickness is greatest at the equator because heat is transported to great heights by strong convectional currents.
- Tropopause separates stratosphere and Troposphere. The air temperature at the tropopause is about minus 80°C over the equator and about minus 45°C over the poles. The temperature here is nearly constant and hence called tropopause.
- Stratosphere absorbs ultra-violet radiation and shield life on the earth from intense harmful of energy through its ozone layer.
- The ionosphere is located between 80 and 400 km above the mesopause and it contains electrically charged particles known as ions. Radio waves transmitted from the earth are reflected back to the earth by this layer. Temperature starts increasing with height.

•

- 63) . Which of the following explains the 'Inversion of temperature' at lower atmosphere of Earth?

- The decrease in temperature with increase in elevation
- The increase in temperature with increase in elevation
- No change in temperature with increase in elevation
- None of the above.

- 2 mins 26 s
- Explanation
- Status

- Ans (b)

Explanation: Inversion of temperature is reversal of normal lapse rate. Inversion is usually short duration. A long winter night with clear skies and still air is ideal situation for

inversion. The heat is radiated off during the night and by early morning hours, the earth is cooler than the air above. Over polar areas, temperature inversion is normal throughout the year.

-

- 64) . India's Golden Triangle is a tourist Circuit connects which of the following cities?

1. Delhi
2. Agra
3. Jaipur
4. Chandigarh

Select the correct answer using the code given below:

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

- 0 mins 17 s
- Explanation
- Status

- Ans (a)

Explanation: Golden Triangle (India)

- India's golden triangle is a tourist circuit which connects the national capital Delhi, Agra and Jaipur.
- The Golden Triangle is so called because of the triangular shape formed by the locations of New Delhi, Agra and Rajasthan on a map.

-

- 65) . Consider the following Nicknames

1. White city
2. City of Lakes
3. Venice of the East

Which of the following city has above the nicknames?

- a . Jaipur
- b . Udaipur
- c . Jaisalmar
- d . Jodhpur

- 0 mins 17 s
- Explanation

- Status

- Ans (b)

Explanation: Colour cities

- Almost every city in Rajasthan is colour coordinated. Jaipur is pink, Udaipur is white, Jodhpur is blue, Jaisalmer(Brown city) and Jhalawar is purple
- Pink colour was used to coat the buildings of the walled city, as a mark of respect for the visit of the Prince of Wales in 1876. That's how Jaipur got its name as Pink city.
- The sun city of Jodhpur is the second largest city of Rajasthan is known as the Blue City on account of the bright blue painted houses that surround the hill on which the formidable Mehrangarh fort is situated.
- The city of lakes, Udaipur, is also known as the White City on account of the predominance of white-coloured structures in the city.

•

- 66) . Matching the following pairs

A. Camel fair	-	1.Khetri
B. Rat Temple	-	2.Kumbhalgarh
C. Copper mine	-	3.Deshnoke
D. Second largest wall of	-	4.Pushkar

The world

Select the correct answer using the code given below:

- a . A - 4 , B - 2, C - 3, D - 1
- b . A - 4 , B - 2, C - 1, D - 3
- c . A - 2 , B - 4, C - 1, D - 3
- d . A - 2 , B - 4, C - 3, D - 1

- 0 mins 32 s
- Explanation
- Status

- Ans (b)

Explanation: Features of Rajasthan

- Kumbhalgarh Fort is a Mewar fortress on the westerly range of Aravalli Hills, in the Rajsamand district near Udaipur of Rajasthan state in western India. With a wall over 38 km long, the fort is the second largest wall in the world after the Great Wall of China and the second largest fort in Rajasthan after Chittorgarh Fort.
- The Pushkar Fair (Pushkar Camel Fair) or locally Pushkar ka Mela is an annual five-day camel and livestock fair held in the town of Pushkar in the state of Rajasthan, India.
- Karni Mata Temple is a Hindu temple dedicated to Karni Mata at Deshnok, 30 km from Bikaner, in Rajasthan, India. It is also known as the Temple of Rats.
- Khetri Nagar is a town in Jhunjhunu district of Rajasthan in India. Khetri Nagar, well known for its Copper Project, was built by and is under the control of Hindustan Copper Limited, a public sector undertaking under the Government of India. Khetri Nagar is also very well known with name of 'Copper'. Khetri is situated at the foothills of the Aravalli Range, which hosts copper mineralization, giving rise to an 80 km long metallogenetic province from Singhana in the north to Raghunathgarh in the south, popularly known as Khetri Copper Belt.

•

- 67) . Which of the following forces affect the velocity and direction of horizontal wind?

1. Pressure Gradient Force
2. Gravitational Force
3. Coriolis Force

Select the correct answer using the code given below:

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

- 0 mins 39 s
- Explanation
- Status

- Ans (c)

Explanation: The horizontal winds near the earth surface respond to the combined effect of

three forces- the pressure gradient force, the frictional force and the Coriolis force. In addition, the gravitational force acts downward.

• **Pressure gradient force:** The differences in atmospheric pressure produces a force. The

rate of change of pressure with respect to distance is the pressure gradient.

• **Frictional force:** It is greatest at the land surface and minimal at the sea surface and at the elevation of 1-3 km

• **Coriolis force:** The rotation of the earth about its axis affects the direction of the wind. It

deflects the wind in the right direction in the north hemisphere and left direction in the south hemisphere. It is directly proportional to the angle of latitude. It is maximum at the poles and is absent at the equator.

•

- 68) . Consider the following statements regarding Earth Hour

1. It is a worldwide movement for the planet to create a sustainable world.
2. It is organised by the Worldwide Fund for Nature (WWF) by annually.

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

- 0 mins 9 s
- Explanation
- Status

- Ans (c)

Explanation: Earth Hour

- Earth Hour is a worldwide movement for the planet organized by the World Wide Fund for Nature (WWF). The event is held worldwide annually encouraging individuals, communities, households and businesses to turn off their non-essential lights for one hour, from 8:30 to 9:30 p.m. towards the end of March, as a symbol for their commitment to the planet.
- It was famously started as a lights-off event in Sydney, Australia, in 2007. Since then, it has grown to engage more than 7000 cities and towns worldwide. Today, Earth Hour engages a massive mainstream community on a broad range of environmental issues. The one-hour event continues to remain the key driver of the now larger movements.

•

- 69) . Which of following Biosphere reserves has been listed under UNESCO's Man and Biosphere Reserve Programme?

1. Great Nicobar
2. Nilgiris
3. Sundarbans
4. Agasthyamala

Select the correct answer using the code given below:

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

- 0 mins 22 s
- Explanation
- Status

- Ans (d)

Explanation: Man and the Biosphere Programme

- Launched in 1971, UNESCO's Man and the Biosphere Programme (MAB) is an intergovernmental scientific programme that aims to establish a scientific basis for the improvement of relationships between people and their environments.
- The Indian government has established 18 Biosphere Reserves in India,[2] (categories roughly corresponding to IUCN Category V Protected areas), which protect larger areas of natural habitat (than a National Park or Animal Sanctuary), and often include one or more National Parks and/or preserves, along with buffer zones that are open to some economic uses.
- The Agasthyamalai Biosphere Reserve was Established in 2001 and includes 3,500.36 km² (1,351.50 sq mi) of which 1828 km² is in Kerala and 1672.36 km² is in Tamil Nadu. Agasthyamalai Biosphere Reserve became part of World Network of Biosphere Reserves in 2016.
- Ten of the eighteen biosphere reserves are a part of the World Network of Biosphere Reserves, based on the UNESCO Man and the Biosphere (MAB) Programme list.

Name	States	Year
Sundarbans Biosphere Reserve	West Bengal	2001
Simlipal Biosphere Reserve	Odisha	2009
Pachmarhi Biosphere Reserve	Madhya Pradesh	2009
Nokrek Biosphere Reserve	Meghalaya	2009
Nilgiri Biosphere Reserve	Tamil Nadu, Kerala, Karnataka	2000
Nanda Devi Biosphere Reserve	Uttarakhand	2004
Gulf of Mannar Biosphere Reserve	Tamil Nadu	2001
Great Nicobar Biosphere Reserve	Great Nicobar	2013
Agasthyamala Biosphere Reserve	Kerala and Tamil Nadu	2016
Achanakmar-Amarkantak Biosphere Reserve	Chhattisgarh, Madhya Pradesh	2012

•

- 70) . Consider the following statements regarding Thar desert

1. It is found in both India and Pakistan.
2. It extends into Gujarat, Punjab and Haryana also.

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

- 0 mins 39 s
- Explanation
- Status

- Ans (c)

Explanation: Thar Desert

The Thar Desert, also known as the Great Indian Desert, is a large, arid region in the northwestern part of the Indian subcontinent that forms a natural boundary between India and

Pakistan. It is the world's 17th largest desert, and the world's 9th largest subtropical desert.

About 85% of the Thar Desert is in India, and the remaining part in Pakistan. In India, it covers about 320,000 km² (120,000 sq mi), of which 90% is in Rajasthan and extends into

Gujarat, Punjab, and Haryana.

- 71) . The word “Utkal” in India’s National Anthem indicates which of the following region?
 - a . Rajasthan
 - b . Odisha
 - c . Punjab
 - d . Sikkim

- 0 mins 10 s
- Explanation
- Status

- Ans (b)

Explanation: Utkal

The Odisha region is also known as Utkala and is mentioned in India's national anthem, "Jana Gana Mana".

-

- 72) . Tropical monsoon climate is most commonly found in
 - 1. Indian subcontinent
 - 2. Northern Australia
 - 3. CambodiaSelect the correct answer using the code given below:
 - a . 1 only
 - b . 1 and 2 only
 - c . 2 and 3 only

d . 1, 2 and 3

- 0 mins 21 s
- Explanation
- Status

- Ans (d)

Explanation: The tropical monsoon lands experience the on-shore wet monsoons in the summer and off-shore dry monsoons in the winter. They are best developed in the Indian sub-continent, Burma, Thailand, Laos, Cambodia, parts of Vietnam and south China and northern Australia.

•

- 73) . Grand Banks of Newfoundland is one of the world's largest fishing ground because

1. Mixing of cold Labrador Current with warm Gulf Stream lifts nutrients to the surface.

2. These are shallow waters through which sunlight can penetrate.

Which of the given above statements is/are correct?

a . 1 only

b . 2 only

c . Both 1 and 2

d . Neither 1 nor 2

- 0 mins 26 s
- Explanation
- Status

- Ans (b)

Explanation: Fish feed on minute marine organisms, collectively called plankton, which is

present in abundance only in shallow waters adjacent to land masses, where sunlight can penetrate through. The gently sloping continental shelves which stretch for over 200 miles

south east of Newfoundland and off the coasts of the Maritime provinces and New England

contain a rich collection of microscopic plankton.

•

- 74) . Consider the following statements regarding the Salinity of Ocean water:

1. Any change in temperature and density of water also changes the salinity of the water in an area.

2. The salinity of Bay of Bengal is much greater than that of the Arabian Sea.

3. In Equatorial regions, Salinity decreases with increasing depth of the ocean.

Which of the statements given above is/are correct?

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

- 0 mins 52 s
- Explanation
- Status

- Ans (a)

Explanation: Factors affecting the ocean salinity are as follows:

1. Evaporation and precipitation decides the salinity of water in the surface layer of oceans
2. Surface salinity is greatly influenced in coastal regions by the fresh water flow from rivers and in Polar Regions by the processes of freezing and thawing of ice.
3. Wind, also influences salinity of an area by transferring water to other areas.
4. The ocean currents contribute to the salinity variations. Any change in temperature and density of water also changes the salinity of the water in an area.
 - The salinity in Bay of Bengal is low due to influx of river water. On the contrary, the Arabian Sea shows higher salinity due to high evaporation and low influx of fresh water.
 - Salinity, generally, increases with depth and there is a distinct zone called the halocline, where salinity increases sharply.

•

- 75) . Consider the following statements regarding the Nitrogen cycle:

1. Nitrogen fixation in atmosphere can be done by lightning and cosmic radiation.
2. The process of conversion of nitrates into free nitrogen is known as denitrification.

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

- 0 mins 16 s
- Explanation
- Status

- Ans (c)

Explanation:

- Nitrogen is a major constituent of the atmosphere comprising about 79% of the

atmospheric gases. It is an essential constituent of different organic compounds such as the amino acids, nucleic acids, proteins, vitamins and pigments.

- Only a few types of organisms like certain species of soil bacteria and blue green algae are

capable of utilizing it directly in its gaseous form.

- Generally, nitrogen is usable only after it is fixed. 90% of fixed nitrogen is biological.

The

principal source of free nitrogen is the action of soil micro-organisms and associated plant roots on atmospheric nitrogen found in pore spaces of the soil. Nitrogen can also be fixed by the lightning and cosmic radiation. In the oceans, some marine animals can fix it. After atmospheric nitrogen has been fixed into an available form, green plants can assimilate it. Dead plants and animals, excretion of nitrogenous wastes are converted into nitrites by the action of bacteria present in the soil. Some bacteria can even convert nitrites into nitrates that can be used again by green plants. There are still other types of bacteria capable of converting nitrates into free nitrogen, a process known as denitrification..

-

- 76) . The Circle of illumination divides Earth into two hemispheres known as:

a . East and West

b . North and South

c . Day and Night

d . Summer and Winter

- 0 mins 10 s
- Explanation
- Status

- Ans (c)

Explanation:

The circle of illumination is the line that separates the Earth to create equal parts of day and

night. It passes through the poles and allows the entire Earth to have an equal amount of time spent during the daylight and night time hours.

It is a line that is able to be seen from space, and the exact location of the line is dependent

on the various seasons. Because the Earth turns on its axis, and the circle of illumination stays in the same general position, the Earth is actually moving around the circle, but it appears that the circle is changing positions. The way that the Earth turns in relation to the

circle of illumination is the main determining factor behind how many hours it is light or dark out.

The circle of illumination also plays a small part on the seasons that are experienced.

Because the Earth is in a different place on the circle, there are fewer daylight hours.

Winter

has the least amount of daylight hours, which means that there is less sunlight to help keep

things warm. Places on the Earth that are closer to the north and south poles are more affected by the lower amount of sunlight, making winters colder and more intense.

•

- 77) . The term “Regional Anti Terrorist Structure” (RATS), which is in frequent news, is associated with the affairs of

a . NATO
b . SCO
c . CSTO
d . ASEAN

- 0 mins 8 s
- Explanation
- Status

- Ans (b)

Explanation: The Regional Anti-Terrorist Structure (RATS), headquartered in Tashkent, Uzbekistan, is a permanent organ of the SCO which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism. The Head of

RATS is elected to a three-year term. Each member state also sends a permanent representative to RATS.

•

- 78) . Consider the following statements regarding ARIES Telescope
1. It is a Joint collaboration between India and Belgium along with Russia.
2. It will help in the study and explorations of planets, stars and astronomical debris.
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

- 0 mins 25 s
- Explanation
- Status

- Ans (c)

Explanation: ARIES

- Asia's largest and first of its kind optical telescope Aryabhata Research Institute of Observational Sciences (ARIES) was unveiled at Devasthal in Nainital District, Uttarakhand. The site was chosen for getting a clear view of the sky.
- The ARIES telescope has been a joint international effort between Indian, Russian and Belgian scientist.
- It will help in the study and exploration of planets, stars, magnetic field and astronomical debris. It will also help research of star structures and magnetic field structures of stars.

•

- 79) . Consider the following statements regarding type of corals:
 1. Barrier reef is a narrow belt of coral platform attached to the coast.
 2. Atoll is a ring like reef which partly or sometimes completely encloses a shallow lagoon.
 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

- 0 mins 26 s
- Explanation
- Status

- Ans (b)

Explanation:

- There are three types of coral features that have been recognized on the basis of their characteristics and their mode of occurrence.

Fringing reef (ii) Barrier reef and (iii) Atoll

Fringing reef: It is a coral reef attached to the coast of a continent or island.

Sometimes there is a lagoon or a shallow channel between the edge of the reef and the land. The fringing reef is a narrow belt and its width varies between 0.5 to 2.5 km. The fringing reef grows from the deep sea bottom.

Barrier reef: It is the largest of the three types. It may be several km wide and several hundred km long. The essential characteristic of this kind of reef is its distant location from the coast or the island. It is separated from the land by a comparatively broader and deeper lagoon.

Atoll: It is a ring like reef which partly or sometimes completely encloses a shallow lagoon. Generally, a large number of channels cutting across the atoll reef join the lagoon with the open sea. Some submarine features that favour for the formation of the atolls are the submerged island, a volcanic cone or a drowned island.

•

- 80) . Caldera lake is formed due to

- a . Erosional activity
- b . Glacial activity
- c . Volcanic activity
- d . Weathering Activity

- 0 mins 8 s
- Explanation
- Status

- Ans (c)

Explanation:

Caldera lake or crater lake:

During a volcanic explosion the top of the cone may be blown off leaving behind a natural

hollow called a crater. This may be enlarged by subsidence into a caldera. These depressions

are normally dry, bounded by steep cliffs and roughly circular in shape. In dormant or extinct volcanoes, rain falls straight into the crater or caldera which has no superficial outlet

and forms a crater or caldera lake.

Ex: Crater lake in Oregon.

- 81) . Consider the following statements regarding Aravalli Ranges

1. These are the oldest Fold Mountains in India.
2. These mountains are running in the states of Gujarat, Rajasthan, Haryana and Delhi.
3. The highest Peak is Guru Shikhar in this Range.

Which of the statements given above is/are correct?

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

- 0 mins 12 s
- Explanation
- Status

- Ans (d)

Explanation: Aravalli Ranges

- The Aravalli Range is a range of mountains in western India running approximately 692 km (430 mi) in a north-eastern direction across the Indian states of Gujarat, Rajasthan, and Haryana, ending in Delhi.

- The Aravalli ranges are the oldest fold mountains in India. The northern end of the range

continues as isolated hills and rocky ridges into Haryana state, ending in Delhi. The famous Delhi Ridge is the last leg of the Aravalli Range, which traverses through South Delhi and terminates into Central Delhi where Raisina hill is its last extension. It is one of the worlds' oldest mountain ranges. It dates back to a pre-Indian subcontinental collision with the mainland Eurasian Plate. The southern end is at Palanpur near Ahmedabad, Gujarat. The highest peak is Guru Shikhar in Mount Abu in Rajasthan.

•

- 82) . The Earth revolves around the Sun in an elliptical path and the Sun is located at one focus of the ellipse. Imagine a situation in which Earth goes around the Sun on a circular path, which one among the following would result in under that situation?

- a . It would not make any difference
- b . Difference between seasons will be reduced
- c . The Earth would become very hot
- d . The Earth would become very cold

- 0 mins 50 s
- Explanation
- Status

- Ans (b)

Explanation:

- Summers are Hotter and Winters are colder in Southern Hemisphere(SH) compared to Northern Hemisphere(NH) because The Earth is at Perihelion (farthest point) when there is winter in SH (NH experiences warm summer) and at Aphelion (closest point to sun) when there is summer in SH (NH experiences warm winter).
- Hence if the orbit becomes circular this difference between the seasons will be reduced.

•

- 83) . Consider the following statements regarding Pattiseema project ,which is frequently in news

1. It aims to divert the water from River Krishna to River Godavari.
2. It is the joint initiative between Andhra Pradesh and Telangana.

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

- 0 mins 6 s
- Explanation
- Status

- Ans (d)

Explanation: Pattiseema Project

- Andhra Pradesh is making Nation's dream true by integration 2 major rivers Godavari and Krishna.
- Polavaram project which is under construction on River Godavari in Andhra Pradesh state aims to give water to River Krishna at Vijayawada and to Vishakapatnam City and the lands enroute to it through its left and right canals.
- Polavaram Project is a multi-purpose irrigation project which has been accorded national project status by the central government. This dam across the Godavari River is under construction located in West Godavari District and East Godavari District in Andhra Pradesh state
- The Pattiseema lift irrigation project would lift the surplus flooding water from river Godavari into the Right Canal.
- Under the Bachawat tribunal and inter-state agreement between Maharashtra, Madhya Pradesh and Andhra Pradesh, 80 tmc of water can be diverted from River Godavari to River Krishna. Pattiseema project will bring the 80 TMC water to River Krishna. The water from Pattiseema project will travel apprx 160 Km and will join River Krishna at Vijayawada in the up waters of prakasam barrage. Saved water in River Krishna is distributed to the Rayalaseema through Pothireddypadu head regulator for its Irrigational and Domestic needs making it a drought free region.
- It is South India's first River Integration Project.
- This is the fastest River integration mega project ever took up in India.
- It provides Irrigation water to 7 Lakh Acres which provides Crores of additional agricultural produce to farmers from Krishna- Godavari regions and the Rayalaseema region.

•

- 84) . The Universal Immunization Programme (UIP) consists vaccination for which of the following diseases?

1. Tetanus
2. Poliomyelitis
3. Tuberculosis
4. Diphtheria
5. Rota Virus

Select the correct answer using the code given below:

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

- 0 mins 14 s
- Explanation
- Status

- Ans (d)

Explanation: Universal Immunization Programme

- It is a vaccination program launched by the Government of India in 1985. It became a part of Child Survival and Safe Motherhood Programme in 1992 and is currently one of the key areas under National Rural Health Mission(NRHM) since 2005. The program consists of vaccination for nine diseases- tuberculosis, diphtheria, pertussis (whooping cough), tetanus, poliomyelitis, measles, Hepatitis B, Diarrhoea, Japanese Encephalitis and Pneumonia.
- Following this vision, the Ministry has launched 'Mission Indradhanush' in December 2014 to fully immunize more than 89 lakh children who are either unvaccinated or partially vaccinated. Following this vision, the Ministry has launched 'Mission Indradhanush' in December 2014 to fully immunize more than 89 lakh children who are either unvaccinated or partially vaccinated.
- In 2016 The Union Ministry of Health and Family Welfare launched India's first indigenous rotavirus vaccine named Rotavac to combat infant mortality due to diarrhoea as part country's ambitious Universal Immunisation Programme (UIP).
- The vaccine is being introduced initially in four States Andhra Pradesh, Haryana, Himachal Pradesh (first to launch it) and Odisha. It would be expanded to the entire country in a phased manner. The Rotavirus vaccine has been developed indigenously under a public-private partnership between the Union Ministry of Science Technology, Union Health Ministry, institutions of the US Government and NGOs in India supported by the Bill and Melinda Gates Foundation.
- The Rotavac vaccine is addition to three new vaccines that have been introduced by Union Government as part of country's UIP. These three vaccines are Inactivated Polio Vaccine (IPV), Measles, Rubella (MR) vaccine, and Adult Japanese Encephalitis (JE) vaccine.
- With these new vaccines, India's UIP will provide free vaccines against 12 life threatening diseases, to 27 million children annually,

•

- 85) . Consider the following statements regarding the Planetary winds
 1. These are deflected to their right side in the northern hemisphere.
 2. Trade winds while passing through west coast form the hot deserts
 3. Westerlies bring much precipitation to the west coasts of continents in the southern hemisphere.
 Which of the given above statements is/are correct?
 - a . 3 only
 - b . 1 and 2 only
 - c . 2 and 3 only
 - d . 1, 2 and 3

- 10 mins 33 s
- Explanation
- Status

- Ans (d)

Explanation:

- Winds tend to blow from the high pressure belts to the low pressure belts as the planetary winds. Instead of blowing directly from one pressure belt to another; however, the effect of the rotation of the earth tends to deflect the direction of the winds. In the northern hemisphere, winds are deflected to their right, and in the southern hemisphere to their left. This is known as Ferrell's Law.

- Winds blowing out from the Sub-Tropical High Pressure Belt in the northern hemisphere

towards the Equatorial Low become North East Trade Winds, and those in the southern hemisphere become the South-East Trade Winds. These trade winds are the most regular of all the planetary winds. They blow with great force and in a constant direction. In their passage across the open oceans, they gather more moisture and bring heavy rainfall to the east coasts of continents within the tropics. As they are off-shore on the west coast, these regions suffer from great aridity and form the Trade Wind Hot Deserts of the world. Eg: Sahara, Kalahari, Atacama and the Great Australian Deserts.

- From the Sub-Tropical High Pressure Belts, winds blow towards the Temperate Low Pressure Belts as the variable Westerlies. Under the effect of the Coriolis Force, they become the South-Westerlies in the Northern hemisphere and the North-Westerlies in the southern hemisphere. In the southern hemisphere where there is a large expanse of ocean, from 40 degree Celsius to 60 degree Celsius. Westerlies blow with much greater force and regularity throughout the year. They bring much precipitation to the western coasts of continents. The weather is damp and cloudily and the seas are violent and stormy. It is thus usual for seafarers to refer to the Westerlies as the Roaring Forties, Furious Fifties and Shrieking or Stormy Sixties, according to the varying degrees of storminess in the latitudes in which they blow.

•

- 86) . Which of the following events happen if Earth stops spinning?

1. The portion of the Earth facing the sun would always experience day.
2. It would displace everything that's not firmly fixed to the bedrock.

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

- 2 mins 52 s
- Explanation
- Status

- Ans (b)

Explanation:

- According to NASA, a sudden stop of Earth's spinning motion would displace

everything

that's not firmly fixed to the bedrock. The reason for this is that, despite the Earth's spin being stopped, the atmosphere would continue to be in motion at its original speed, i.e., 1100 miles per hour (1770 km per hour). Therefore, everything that's not firmly attached to the bedrock will be swept off the ground; huge rocks, topsoil, buildings, vehicles, human beings etc.

- Earth takes 24 hours (approximately) to complete one spin on its axis, which in turn causes every creature on Earth to experience day and night. It's pretty basic: while spinning, the side of Earth that faces the sun experiences day and the side facing away from the sun experiences night. This cycle goes on and on, forming weeks, years, and millennia.

- However, if Earth stopped spinning gradually, what it accomplishes in a single day might

eventually take a year to complete; countries on the side facing the sun would experience daylight for 6 months, while those living on the side facing away from the sun would experience a six-month night. This is precisely what life is like at the North and South poles today at different points of the year.

-

- 87) . The Kirghiz, the Kazakhs and the Kalmyk tribes are inhabited in

- a . Prairies
- b . Steppes
- c . Pampas
- d . Downs

- 0 mins 52 s
- Explanation
- Status

- Ans (b)

Explanation:

- Nomadic herding is practiced in Temperate grasslands. The herders were wandering tribes in search of grass and water for their animals.

- Example of those tribes living in Steppes are the Kirghiz, the Kazakhs and the Kalmuk.

-

- 88) . Which of the following is/are the features of the Middle Course of River?

- 1. Delta
- 2. Meander
- 3. Waterfalls

Select the correct answer using the code given below:

- a . 1 only
- b . 2 only

- c . 3 only
- d . None of the above

- 0 mins 53 s
- Explanation
- Status

- Ans (b)

Explanation: The course of river may be divided into three distinct parts:

a) Upper or Mountain course (youth stage):

i) River capture

ii) Rapids, cataracts and waterfalls

b) The Middle or Valley Course (Mature stage):

i) Meanders

ii) River cliffs and slip-off slopes

iii) Interlocking spurs

c) The Lower or Plain Course (Old age stage):

i) Flood Plain

ii) Ox-bow lakes

iii) Delta

-

- 89) . Consider the following statements regarding Maulana Azad National Academy for Skills (MANAS) scheme

1. It will focus on providing skills, upgrading abilities and training to the members of Minority community.

2. It will be implemented by the Ministry of Minority affairs.

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

- 0 mins 4 s
- Explanation
- Status

- Ans (c)

Explanation: MANAS Programme

Union Minister for Minority Affairs Najma Heptulla on 29 March 2016 launched innovative

entrepreneurship and skill development programme of Maulana Azad National Academy for

Skills (MANAS) through leading national and international experts in different skill sets. The innovative Scheme proposes to use leading celebrities who belong to Minority communities in various skill sets as the driving force behind the skill development projects in their respective fields. It is for the benefit of marginalised sections of minority communities.

•

- 90) . The Term “Exercise Force – 18” which is often in news, refers to

- a . Joint Space Exploration of ASEAN
- b . Joint Military Exercise of ASEAN
- c . Joint Clean Energy Project of ASEAN
- d . Joint Elephant Conservation Project of ASEAN

- 0 mins 10 s
- Explanation
- Status

- Ans (b)

Explanation: Exercise FORCE 18

- Multinational Field Training Exercise (FTX) – Exercise FORCE 18, involving ASEAN Plus countries (all members of East Asia summit) conducted at Pune today displaying true jointmanship and team spirit.
- This is the largest Ground Forces Exercise ever conducted on Indian soil with themes based on ‘Humanitarian Mine Action’ and ‘Peacekeeping Operations’.

- 91) . Consider the following statements regarding Sikkim

1. The state lacks in Railway Services.
2. It is one of the Biodiversity hotspots in the world.
3. The River Teesta originates here.
4. One third of the total angiosperms of India are found here.

Which of the statements given above is/are correct?

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

- 0 mins 6 s
- Explanation
- Status

- Ans (d)

Explanation: Sikkim

- Sikkim is nonetheless geographically diverse due to its location in the Himalayas; the climate ranges from subtropical to high alpine, and Kangchenjunga, the world's thirdhighest peak, is located on Sikkim's border with Nepal. It also has the only open land border between India and China. Almost 25% of the state is covered by the Khangchendzonga National Park.
- In 2015, Sikkim fully implemented organic farming statewide, becoming India's first "organic state"
- The Teesta River originates from the Pahunri (or Teesta Kangse) glacier above 7,068 metres (23,189 ft), and flows southward through gorges and rapids in the Sikkim Himalayas. Pahunri is a mountain in the Eastern Himalayas. It is located on the border of Sikkim, India and Tibet, China, and is situated about 75 km northeast of Kangchenjunga.

•

- 92) . Which of the following is correctly matched?

- a . Pong Dam - Ravi River
- b . Ranjit Sagar Dam - Beas River
- c . Kota Barrage - Chambal
- d . Jawahar Sagar Dam - Yamuna

- 0 mins 5 s
- Explanation
- Status

- Ans (c)

Explanation: Dams

- The Pong Dam, also known as the Beas Dam, is an earth-fill embankment dam on the Beas River just upstream of Talwara in the state of Himachal Pradesh, India.
- The Ranjit Sagar Dam, also known as the Thein Dam, is part of a hydroelectric project constructed by the Government of Punjab on the Ravi River in the state of Punjab.
- The Chambal River is utilized for hydropower generation at Gandhi Sagar dam, Rana Pratap Sagar dam and Jawahar Sagar Dam and for annual irrigation of 5668.01 square kilometres in the commands of the right main canal and the left main canal of the Kota Barrage.
- Kota Barrage is the fourth in the series of Chambal Valley Projects, located about 0.8 km upstream of Kota City in Rajasthan. Water released after power generation at Gandhi Sagar dam, Rana Pratap Sagar dam and Jawahar Sagar Dams, is diverted by Kota Barrage for irrigation in Rajasthan and in Madhya Pradesh through canals on the left and the right sides of the river.

•

- 93) . Which of the following factors determine the variation and the intensity of the insolation at the surface of the Earth?

1. The rotation of Earth on its axis.
2. The transparency of the atmosphere.
3. The length of the day.

Select the correct answer using the code given below:

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

- 0 mins 47 s
- Explanation
- Status

- Ans (d)

Explanation: The amount and the intensity of the insolation vary during a day, in a season

and in a year. The factors that cause these variations in insolation are:

1. The rotation of earth on its axis.
2. The transparency of the atmosphere.
3. The length of the day
4. The configuration of land in terms of its aspect.
5. The angle of inclination of the sun's rays.

- Due to tilt of earth's axis with the plane of its orbit round the sun, insolation varies according to the latitudes.

- The higher the latitude the less is the angle they make with the surface of the earth resulting in slant sun rays. Slant rays are required to pass through greater depth of atmosphere resulting in more absorption, scattering and diffusion.

- Water vapour, ozone and other gases absorb much of the near infrared radiation. Very small suspended particles in the troposphere scatter visible spectrum both to the space and towards the earth surface. Thus the transparency of the atmosphere also influences the amount of insolation.

-

- 94) . Consider the following statements regarding the features of the Desert Vegetation:

1. Most desert shrubs have long roots.
2. Some of the desert vegetation has thick succulent stems.
3. Most desert plants are xerophytes

Which of the statements given above is/are correct?

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

- 0 mins 12 s
- Explanation
- Status

- Ans (d)

Explanation: Deserts typically have a plant cover that is sparse but enormously diverse.

Features of desert vegetation:

1. The predominant vegetation of both hot and mid-latitude deserts is xerophytic or drought resistant scrub.
2. Plants that exist in deserts have highly specialized means of adapting themselves to the arid environment. Most of the plants have few or no leaves and the foliage is either waxy, leathery, hairy or needle-shaped to reduce the loss of water through transpiration.
3. Most desert plants are salt-tolerant. Some store water in their leaves, roots, and stems. Other desert plants have long tap roots that penetrate the water table, anchor the soil, and control erosion.
4. The stems and leaves of some plants lower the surface velocity of sand-carrying winds and protect the ground from erosion.
5. Some plants have thick succulent stems to store up water for long duration.

•

- 95) . The famous mountain pass, a part of famous silk route, which connects the Indian State of Sikkim with China is

- a . Shipki La
- b . Nathu La
- c . Bomdila
- d . Zojila Pass

- 0 mins 9 s
- Explanation
- Status

- Ans (b)

Explanation: Passes

- Nathu La is a mountain pass in the Himalayas. It connects the Indian state of Sikkim with China's Tibet Autonomous Region. The pass, at 4,310 m (14,140 ft) above mean sea level, forms a part of an offshoot of the ancient Silk Road.
- Zoji La is a high mountain pass in Jammu and Kashmir, India, located on the Indian National Highway 1D between Srinagar and Leh in the western section of the Himalayan mountain range.
- Bomdila is the headquarters of West Kameng district in the state of Arunachal Pradesh in India.

- Shipki La is a mountain pass and border post on the India-China border. The river Sutlej, which is called Langqên Zangbo in Tibet, enters India (from Tibet) through this pass. It is an offshoot of the ancient Silk Road.
 - It is located in Kinnaur district in the state of Himachal Pradesh, India, and Tibet, China.
- The pass is India's second border post for trade with Tibet after Nathu La in Sikkim, and Lipulekh in Nepal.

•

- 96) . Which of the following agency releases “Global Energy Architecture Performance Index Report” (EAPI) annually?
 - a . International Energy Agency (IEA)
 - b . World Economic Forum (WEF)
 - c . United Nations Environment Programme (UNEP)
 - d . United Nations Development Programme (UNDP)

- 0 mins 19 s
- Explanation
- Status

- Ans (b)

Explanation: Global energy architecture performance index report (EAPI)

- World Economic Forum (WEF) on 2 March 2016 released the fourth edition of the Global Energy Architecture Performance Index Report 2016 (EAPI) compiling 126 countries. India has been ranked at 90th position which is topped by Switzerland.
- The latest Global Energy Architecture Performance Index Report, explored the energy architecture of 126 countries based on their ability to provide energy access across three dimensions of the “energy triangle” — affordability, environmental sustainability, security and access.

•

- 97) . Suppose a cyclone is formed in the middle of the Mediterranean Sea in the month of October. Which of the following cities will it meet during its course?

1. Athens
2. Cairo
3. Lisbon
4. Istanbul

Select the correct answer using the codes given below:

- a . 2 and 3 only
- b . 1 and 4 only

- c . 1, 2 and 4 only
- d . 1, 3 and 4 only

- 0 mins 37 s
- Explanation
- Status

- Ans (b)

Explanation: During the month of October the ITCZ and Sub-Tropical High pressure belt move downward. Hence westerlies start blowing over the Mediterranean Sea. Any cyclone formed in the Mediterranean Sea will move under the influence of these westerlies from west to east. Cairo will come under desert climatic zone.

-

- 98) . Consider the following statements regarding ExoMars Mission
 1. It is a Joint Mission between India and Russia.
 2. It will aim to search the signs of past and present life on mars.
 3. It placed the trace gas research and communication satellites into Mars orbit.Which of the statements given above is/are correct?
 - a . 2 and 3 only
 - b . 1 and 2 only
 - c . 3 only
 - d . 1, 2 and 3

- 0 mins 17 s
- Explanation
- Status

- Ans (a)

Explanation: ExoMars

- ExoMars (Exobiology on Mars) is a two-part Martian astrobiology project to search for evidence of life on Mars, a joint mission of the European Space Agency (ESA) and the Russian space agency Roscosmos. The first part, launched in 2016, placed a trace gas research and communication satellite into Mars orbit and released a stationary experimental lander (which crashed). The second part is planned to launch in 2020, and to land a rover on the surface, supporting a science mission that is expected to last into 2022 or beyond.
- ExoMars goals are to search for signs of past and present life on Mars, investigate how the Martian water and geochemical environment varies, investigate atmospheric trace gases and their sources and by doing so demonstrate the technologies for a future Mars

sample return mission. The mission will search for bio-signatures of Martian life, past or present, employing several spacecraft elements to be sent to Mars on two launches.

-

- 99) . Which of the following is not a green house gas?

1. Methane
2. Chlorofluorocarbons
3. Carbon dioxide
4. Ammonia
5. Carbon monoxide

Select the correct answer using the code given below:

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

- 1 mins 24 s
- Explanation
- Status

- Ans (c)

Explanation:

At the global scale, the key greenhouse gases emitted by human activities are:

Global GHG emissions by gas: 65% is from carbon dioxide fossil fuel use and industrial processes. 11% is from carbon dioxide deforestation, decay of biomass, etc. 16% is from methane. 6% is from nitrous oxide and 2% is from fluorinated gases.

Source: IPCC (2014) Exit based on global emissions from 2010. Details about the sources

included in these estimates can be found in the Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Exit

Carbon dioxide (CO₂): Fossil fuel use is the primary source of CO₂. The way in which people

use land is also an important source of CO₂, especially when it involves deforestation. CO₂

can also be emitted from direct human-induced impacts on forestry and other land use, such

as through deforestation, land clearing for agriculture, and degradation of soils. Likewise, land can also remove CO₂ from the atmosphere through reforestation, improvement of soils,

and other activities.

Methane (CH₄): Agricultural activities, waste management, energy use, and biomass burning

all contribute to CH₄ emissions.

Nitrous oxide (N₂O): Agricultural activities, such as fertilizer use, are the primary source

of

N₂O emissions. Biomass burning also generates N₂O.

Fluorinated gases (F-gases): Industrial processes, refrigeration, and the use of a variety of consumer products contribute to emissions of F-gases, which include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Black carbon is a solid particle or aerosol, not a gas, but it also contributes to warming of the

atmosphere. Learn more about black carbon and climate change on our Causes of Climate Change page.

-

- 100) . Which of the following is/are examples of mountains of elevation?

1. Rockies
2. Himalayas
3. Andes
4. Alps

Select the correct answer using the code given below:

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

- 0 mins 48 s
- Explanation
- Status

- Ans (d)

Explanation: Mountains of elevation is the other name for folded mountains.