

Q.1) According to a recent study, India's Sulphur dioxide (SO₂) emission is among the highest in world. Which of the following are initiatives taken by government to reduce the emission of Sulphur dioxide?

1. It is one of the pollutants being measured in Air Quality Index.
2. Increasing cess on coal production to Rs 400 per tonnes.
3. Implementation of Bharat Stage Norms.
4. Including Sulphur dioxide in the hazardous gas list.

Select the correct answer using the codes given below.

- a) 2 and 3 only
- b) 1 and 3 only
- c) 1, 2 and 3 only
- d) All the above

Q.1) Solution (c)

SO₂ is not listed under hazardous gas list. It is widely used in industrial productions.

Over the last 10 years, India's SO₂ emissions have spiked by 50% and it could become the world's largest emitter of the toxic air pollutant

Government Action on SO₂

- It's one of the pollutants being measured under Air Quality Index.
- Increasing cess on coal production to Rs 400 per tonnes.
- Implementation of Bharat Stage Norms
- **Emission norms for Thermal power plant (2015):** It directs them to reduce emission of PM 10, SO₂ and oxide of nitrogen.

Do you know?

- Around 33 million Indians live in areas with substantial Sulphur dioxide pollution – a number which has doubled since 2013. This might also increase with growing demand of energy.

THINK!

- Acid rain
- Ocean acidification.

Q.2) Negative Emission Technologies refer to a number of technologies, the objective of which is the large-scale removal of carbon dioxide from the atmosphere. Consider the following technologies

1. Bio-energy with carbon capture and storage (BECCS).
2. Biochar
3. Carbon capture and storage
4. Ocean fertilization

Which of the above is/are Negative Emission Technologies?

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

Q.2) Solution (d)

Carbon Dioxide Removal (CDR) also known as negative emission technologies refer to a number of technologies, the objective of which is the large-scale removal of carbon dioxide from the atmosphere. Among such technologies are bio-energy with carbon capture and storage, biochar, ocean fertilization, enhanced weathering, and direct air capture when combined with storage. CDR is a different approach than removing CO₂ from the stack emissions of large fossil fuel point sources, such as power stations. The latter reduces emission to the atmosphere but cannot reduce the amount of carbon dioxide already in the atmosphere.

Bio-energy with

Like most charcoal, biochar is made from biomass via pyrolysis. Biochar is under carbon capture and storage (BECCS) is a future greenhouse gas mitigation technology which produces negative carbon dioxide emissions by combining bioenergy (energy from biomass) use with geologic carbon capture and storage.

Biochar is charcoal used as a soil amendment. Biochar is a stable solid, rich in carbon, and can endure in soil for thousands of years. Investigation as an approach to carbon sequestration.

Carbon capture and storage (CCS) (or **carbon capture and sequestration** or **carbon control and sequestration**) is the process of capturing waste carbon dioxide (CO₂) from large point sources, such as fossil fuel power plants, transporting it to a storage site, and depositing it where it will not enter the atmosphere, normally an underground geological formation.

Ocean fertilization or **ocean nourishment** is a type of climate engineering based on the purposeful introduction of nutrients to the upper ocean to increase marine food production and to remove carbon dioxide from the atmosphere. A number of techniques, including fertilization by iron, urea and phosphorus have been proposed.

Do you know?

- INDC pledges submitted by countries to reduce current emissions are only about one third of what is needed to prevent catastrophic temperature increases by “at least” 3°C from preindustrial levels by the year 2100.

THINK!

- Intergovernmental panel on climate change (IPCC)
- Enhanced weathering.

Q.3) Recently the Pet Coke or Petroleum coke was in news. Consider the following statements about it.

1. Pet coke is a solid carbon rich material derived from oil refining.
2. It is cleaner alternative to coal and emits 11% less greenhouse gas.
3. India is the world's largest producer of pet coke.
4. It has the least sulfur content among fossil fuels.

Select the *incorrect* statements using the codes given below.

- a) 2 and 3 only
- b) 1, 2 and 3 only
- c) 2, 3 and 4 only
- d) None

Q.3) Solution (c)

Petroleum coke or pet coke is a solid carbon rich (90% carbon and 3% to 6% sulfur) material derived from oil refining. It is categorized as a “bottom of the barrel” fuel. It is a dirtier alternative to coal and emits 11% more greenhouse gases than coal. **India is the world's biggest consumer of petroleum coke.** It is an approved fuel in many states such as Andhra Pradesh, Telangana, Gujarat and Karnataka.

Do you know?

The Air (Prevention and Control of Pollution) Act, 1981.

- According to it, governments may prohibit the use of fuel, which is likely to cause air pollution, in air pollution control areas.
- Act also gives authority to state board to declare any fuel as ‘approved fuel’.

THINK!

- Environment Protection (Prevention and Control) Authority (EPCA).

- Carbon tax.

Q.4) Which of the following best defines the permaculture?

- a) Permaculture is a system of agriculture and aquaculture within the ecological carrying capacity of the region.
- b) Permaculture is a system of agricultural and social design principles centered on simulating or directly utilizing the patterns and features observed in natural ecosystems.
- c) Permaculture is a system of agriculture and agro based industry developing side by side.
- d) None.

Q.4) Solution (b)

Permaculture

It is the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems. It is the harmonious integration of landscape and people —providing their food, energy, shelter, and other material and non-material needs in a sustainable way. The term was coined by Bill Mollison in 1978.

Do you know?

- 'IPC' or the International Permaculture Convergence is an epic gathering of permaculture practitioners from around the world, to share knowledge and expertise and strategize about the future of the permaculture movement. It has been active since 1985 and brings together inspiring and experienced permaculturists to deliver diverse and engaging programmes.

THINK!

- Integrated farming.
- Organic farming.

Q.5) Consider the following statements.

1. An aerosol is a suspension of fine solid particles or liquid droplets, in air or another gas.
2. Examples of anthropogenic aerosols are fog, dust, forest exudates and geyser steam.
3. Examples of natural aerosols are haze, particulate air pollutants and smoke.
4. Aerosol contributes to global warming.

Which of the given statements is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 4 only
- d) All the above

Q.5) Solution (a)

An aerosol is a suspension of fine solid particles or liquid droplets, in air or another gas. Aerosols can be natural or anthropogenic. Examples of natural aerosols are fog, dust, forest exudates and geyser steam. Examples of anthropogenic aerosols are haze, particulate air pollutants and smoke.

- Impact cloud formations because water condenses on aerosol particles.
- Offset warming from greenhouse gases because it sends some of the sun's radiant energy back to space and exerting a cooling influence on Earth's climate.

Do you know?

- Climatologist from Indian Institute of Tropical Meteorology contended that aerosols (particulate matter) are the major cause of weakening of the monsoon.

THINK!

- Green houses impact on monsoon.
- Global dimming

Q.6) Any practice that affects the equilibrium of an aquatic environment may alter the temperature of that environment and subsequently cause thermal pollution. Consider the following statements regarding thermal pollution:

1. Thermal pollution comes in the form of dumping warm waters not cold waters into lake, river, or ocean.
2. Volcanic eruption is one source of thermal pollution.
3. Due to thermal pollution dissolved oxygen content in water increases.

Choose the correct answer using the codes given below.

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

Q.6) Solution (b)

Any practice that affects the equilibrium of an aquatic environment may alter the temperature of that environment and subsequently cause thermal pollution. It may come in the form of warm or cold water being dumped into a lake, river, or ocean.

In layman's terms, thermal pollution is when an industry or other human-made organization takes in water from a natural source and either cools it down or heats it up. They then eject that water back into the natural resource, which changes the oxygen levels and can have disastrous effects on local ecosystems and communities.

Thermal pollution is defined as sudden increase or decrease in temperature of a natural body of water which may be ocean, lake, river or pond by human influence. This normally occurs when a plant or facility takes in water from a natural resource and puts it back with an altered temperature. Usually, these facilities use it as a cooling method for their machinery or to help better produce their products.

Source of thermal pollution

- Volcanic eruption or geothermal activities below the ocean.
- Heated waste water produces from coal-based power plant,
- Textile paper and pulp industry.
- Deforestation and decreasing tree coverage and Soil erosion.

Ecological Impact of thermal Pollution

Decrease in dissolved oxygen: warmer water increases the rate of decomposition of organic matter, resulting in higher rate of decreasing the depleted oxygen. Threat to temperature sensitive organism for instance, stenothermic organism can survive in a narrow range of temperature any variation in temperature is detrimental to their survival. It disrupts the stability of food chain and alters the ecology of marine organisms.

Do you know?

- During warm weather, urban runoff can have significant thermal impacts on small streams, as storm water passes over hot parking lots, roads and sidewalks

THINK!

- Thermal Shock.

Q.7) "Methanol has been promoted as an alternative transportation fuel from time to time over the past forty years". Which of the following statements regarding Methanol is *not* correct?

- a) It can be produced from natural gas.
- b) It is a biodegradable fuel.
- c) Similar to hydrocarbon fuels, it is not soluble in water.

- d) It can be blended with ethanol and gasoline.

Q.7) Solution (c)

Methanol, like ethanol but unlike hydrocarbon fuels, is water soluble. As a consequence, it is transported through diffusion and convection through the environment at much faster rate than hydrocarbons. In addition to fast migration, methanol bio-degrades much faster than hydrocarbons. Fast transport and degradation result in short lifetimes. Hydrocarbons, on the other hand, comprise many stable compounds, which include some, such as aromatics, that are highly toxic to bio-organisms and degrade slowly.

Do you know?

- It is a liquid fuel which **can be blended with gasoline and ethanol** and can be used with today's vehicle technology at minimal incremental costs.
- It is a safe fuel. The toxicity (mortality) is comparable to or better than gasoline. It also **biodegrades quickly** (compared to petroleum fuels) in case of a spill.

THINK!

- Third generation biodiesel.

Q.8) Consider the statements with regard to Energy Conservation and Building Code (ECBC), 2017.

1. It prescribes the energy performance standards for all new and old commercial buildings of India.
2. To be considered ECBC-compliant building needs to demonstrate minimum energy savings of 25%.

Which of the above statements are correct?

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

Q.8) Solution (b)

Power, Coal, New and Renewable Energy and Mines launched the Energy Conservation Building Code 2017 (ECBC 2017)

Developed by Ministry of Power and Bureau of Energy Efficiency (BEE), ECBC 2017 prescribes the energy performance standards for new commercial buildings to be constructed across India.

- The updated version of ECBC provides current as well as futuristic advancements in building technology to further reduce building energy consumption and promote low-carbon growth.
- ECBC 2017 sets parameters for builders, designers and architects to integrate renewable energy sources in building design with the inclusion of passive design strategies.
- The code aims to optimise energy savings with the comfort levels for occupants, and prefers life-cycle cost effectiveness to achieve energy neutrality in commercial buildings.

In order for a building to be considered ECBC-compliant, it would need to demonstrate minimum energy savings of 25%. Additional improvements in energy efficiency performance would enable the new buildings to achieve higher grades like ECBC Plus or Super ECBC status leading to further energy savings of 35% and 50%, respectively.

Do You Know?

With the adoption of ECBC 2017 for new commercial building construction throughout the country, it is estimated to achieve a 50% reduction in energy use by 2030. This will translate to energy savings of about 300 Billion Units by 2030 and peak demand reduction of over 15 GW in a year. This will be equivalent to expenditure savings of Rs 35,000 crore and 250 million tonnes of CO₂ reduction.

Think

- Bureau of Energy Efficiency (BEE)
- Green Buildings

Q.9) Which of the following is commonly known as “Terror of Bengal”?

- a) Norway Maple
- b) Water Hyacinth
- c) Common Ivy
- d) Honeysuckle

Q.9) Solution (b)



Terror Of Bengal: Water Hyacinth

The beautiful mauve-colored flowers found on very appealingly-shaped floating plants in water bodies. These plants which were introduced into India for their lovely flowers have caused havoc by their excessive growth by causing blocks in our waterways. They grow faster than our ability to remove them. These are plants of water hyacinth (*Eichhornia crassipes*), the world's most problematic aquatic weed, also called Terror of Bengal. They grow abundantly in eutrophic water bodies, and lead to an imbalance in the ecosystem dynamics of the water body.

Fish is a supplement food in **Bengal**, and because of the fish scarcity in **Bengal** caused by *Eichhornia*, the water hyacinth is also called "**Terror of Bengal**".

Think

- Invasive species

Q.10) The 'Kubuqi Model' has been praised by the UN Environment Programme for desertification control and being an "eco-pioneer" in greening the world. Which of the following statements regarding Kubuqi model are correct?

1. It was developed by Private firms with the help of local people.
2. It is implemented in Egypt to promote livelihood and small industries in the region.
3. The UNEP calls it Kubuqi Ecological restoration project.

Select the code from following:

- a) 1 and 2

- b) 2 and 3
- c) 1 and 3
- d) All of the above

Q.10) Solution (c)

Life has a chance these days in Inner Mongolia's Kubuqi Desert, around 18,600 sq km of golden sand dunes that plunge south in an arc from China's Yellow River. Centuries of grazing had denuded the land of all vegetation, and the region's 740,000 people were wallowing in isolated poverty.

In 1988, the Chinese firm Elion Resources Group partnered with local people and the Beijing government to combat desertification. Almost three decades later, one third of Kubuqi has been greened. Special plants have been grown to grip the shifting sands and to prevent the dunes encroaching on farms and villages.

The Kubuqi project illustrates how private firms can tackle environmental degradation, boost livelihoods and safeguarding the planet — all while chasing profits for themselves. The scheme won Elion the 2013 Global Dryland Champion Award — a prize given out by the U.N. Convention to Combat Desertification — in recognition of the “tremendous impact” on local people's lives.

Think

- Desertification
- Sahel region

To read more about the project follow the link

<http://time.com/4851013/china-greening-kubuqi-desert-land-restoration/>

Q.11) Which statements are correct regarding 'Ganga Gram' project?

1. It aims for holistic sanitation development in villages on banks of river Ganga
2. It was launched under Namami Ganga Programme
3. It is initiative of Ministry of Environment, Forest and Climate Change

Select the code from below:

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

Q.11) Solution (b)**Ganga Gram Project**

The Ministry of Drinking Water and Sanitation (MDWS) launched 'Ganga Gram' – a project for sanitation based integrated development of all 4470 villages along the River Ganga.

Ganga Gram vision is an integrated approach for holistic development of villages situated on the banks of River Ganga with active participation of the villagers. After achieving ODF target in Ganga Villages, implementation of solid and liquid waste management and other integrated activities are remaining tasks.

Ministry of Drinking Water and Sanitation is the nodal agency for implementation of the Ganga Gram Project.

Think

- Namami Ganga Project

<http://pib.nic.in/newsite/printrelease.aspx?relid=174802>

Q.12) consider the following statement regarding Rhizofiltration:

1. Rhizofiltration refers to the approach of using hydroponically cultivated plant roots to remediate contaminated water.
2. Rhizofiltration is used for treatment in soil remediation.

Which of the above statements are correct?

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

Q.12) solution (a)

This process is very similar to phytoextraction in that it removes contaminants by trapping them into harvestable plant biomass.

The major difference between rhizofiltration and phytoextraction is that rhizofiltration is used for treatment in aquatic environments, while phytoextraction deals with soil remediation.

Rhizofiltration is a treatment method that may be conducted in situ, with plants being grown directly in the contaminated water body.

Think

- Bioremediation
- Bio - accumulation

Q.13) Consider the following statements regarding Ozone hole

1. It is a region in the stratosphere where no ozone gas is present.
2. It is caused by CFCs and bromine only
3. Montreal protocol is related to substances that deplete ozone layer

Which of the above statements are *incorrect*?

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

Q.13) solution (c)

The ozone hole is not technically a hole where no ozone gas is present, but is actually a region of exceptionally depleted ozone in the stratosphere over the Antarctica.

That happens at the beginning of southern hemisphere spring. Ozone hole can be formed anywhere in the stratosphere due to depletion of ozone molecules but as of today it is found only in the region above Antarctic continent which has favourable weather conditions like polar stratospheric clouds which aid the process of ozone hole formation.

In this particular region the ozone has depleted by 65% that is the reason it is called as ozone hole where as in other region it is 20%.

It is caused by CFCs, halons, carbon tetrachloride and methyl chloroform.

Montreal protocol on substances that deplete the ozone layer is the most successful international treaty till date which prohibits the production and consumption of compounds that deplete the ozone layer.

Think

- Dobson

Q.14) Which of the following statements about ocean acidification are *incorrect*?

1. Ocean acidification is the ongoing increase in the pH of the Earth's oceans, caused by the uptake of carbon dioxide from the atmosphere
2. It increases the concentration of hydrogen ions and decreases the concentration of carbonate ions.
3. Ocean acidification leads to seawater pH go below 7

Select the code from following:

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

Q.14) Solution (c)

Ocean acidification is the ongoing decrease in the pH of the Earth's oceans, caused by the uptake of carbon dioxide (CO₂) from the atmosphere. It increases the concentration of hydrogen ions and decreases the concentration of carbonate ions. Seawater is slightly basic, and the process in question is a shift towards pH-neutral conditions rather than a transition to acidic conditions (pH < 7).

Note: If pH will get to 7 the entire marine life will extinguish.

Think

- Coral Bleaching

Q.15) Consider the following in regard to Fly ash, a by-product of the thermal power plants:

1. They often contain pollutants such as heavy metals and organic compounds.
2. They are used to produce high quality walling material and construct eco-friendly and cost-effective houses.
3. They have potential to improve survival, growth and quality of plantation taken up in wasteland and hence transform barren wasteland into lush green forests.

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

Q.15) Solution (d)

Findings of years-long experiments by scientists and forest administrators showed fly ash improved survival, growth and quality of plantation taken up in wasteland. They suggested fly ash should be used for forestry and development of degraded or wasteland — a solution to ever-increasing fly ash burden.

Fly ash is a resourceful material and can be effectively utilized as soil modifier in large quantity and micro fertilizer in converting wasteland (barren land, rocky nature, sandy and water logged soil, highly alkali and acidic soil etc.) into agriculturally productive land. Best thing about fly ash is, that it retains water in ground and helps bacterial actions to take place to cultivate good quality of crops or vegetables.

There is wide scope for use of fly ash as a nursery material for substituting soil and sand for nursery raising as well as for promotion of forestry plantation. Besides, application of fly ash would help reclamation of waste degraded forestland and enhance growth of tree species.

Chhonkar, ICAR emeritus scientist, IARI, New Delhi, has said that the use of fly ash in agriculture would play a major role in the second green revolution.

Fly ash technology has also provided relief to the overstressed resource base of soils being mined for the production of fired-bricks.

The use of fly ash in building bricks, first popularised in India by the Institute for Solid Waste Research and Ecological Balance (INSWAREB) in Vishakhapatnam, India, is now rapidly gaining acceptance in construction works. The World Bank has now entered into an agreement with INSWAREB to promote this environment friendly technology - a move that would also yield revenue through sale of carbon credits.

Blending fly ash with concrete can produce a more durable structure, resistant to corrosion as well as water.

In summary, the use of fly ash brick technology has shown a way to reduce the consumption of energy and the use of scarce agricultural soil required for the production of traditional fired bricks and at the same time provides a solution to the environmental hazard of dumping ash as has been the practice of most power plants in India.

Fly ash often contains pollutants such as heavy metals and organic compounds. Its inhalation has been linked to silicosis and results in TB, asthma and weakening of the lungs.

The massive generation of this ash by thermal power plants has become a major cause of concern for people living in cities and towns in the country. It can pollute air and water and may cause heavy metal pollution in water bodies.

Do you know?

Recently, the National Green Tribunal has directed all States and Union Territories to submit an action plan on the usage of fly ash that is generated from thermal power plants.

THINK!

- Contaminants of Fly Ash
- Major oxides present in Fly Ash

Q.16) Identify the incorrect statement about Bomb cyclone or bombogenesis, which was in news recently:

- a) It is a rapidly deepening tropical cyclonic low-pressure area, predominantly found in continental settings.
- b) It is a storm caused by a collision of warm air and cold air which develop into rotating storm-like pattern and lead to an explosive deepening of pressure.
- c) A storm is considered a 'bomb' when the pressure drops rapidly — at least 24 millibars in 24 hours.
- d) None of the above.

Q.16) Solution (a)

Explosive cyclogenesis or **bomb cyclone** or **bombogenesis** refers in a strict sense to a rapidly deepening extra-tropical cyclonic low-pressure area. To enter this category, the central pressure of a depression at 60° latitude is required to decrease by 24 mbar (hPa) or more in 24 hours.

What makes a storm a "bomb" is how fast the atmospheric pressure falls; falling atmospheric pressure is a characteristic of all storms. By definition, the barometric pressure must drop by at least 24 millibars in 24 hours for a storm to be called a bomb cyclone; the formation of such a storm is called bombogenesis.

This is a predominantly maritime, winter event, but also occurs in continental settings. In other words, bomb cyclones are mostly found over open oceans and are rarely seen over land. Hence, statement (1) is wrong and also because it is wrongly mentioned as tropical cyclonic low-pressure area.

Do you know?

The United States East Coast and Midwest were battling record-breaking low temperatures during January 2018 as cold Arctic air continued to sweep through the region followed by the freezing winter storm — bomb cyclone or bombogenesis.

This cyclone is essentially a storm caused by a collision of warm air and cold air which develop into rotating storm-like pattern and lead to an explosive deepening of pressure.

Article link: <http://indianexpress.com/article/what-is/what-is-bomb-cyclone-and-why-is-it-freezing-usa-5014731/>

Q.17) Consider the below statements with respect to World Sustainable Development Summit (WSDS):

1. The 2018 WSDS Summit was organized by The Energy and Resources Institute.
2. It is annual flagship event of UN.
3. The theme of the 2018 Summit is 'Partnerships for a Resilient Planet'.

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

Q.17) Solution (c)

The 2018 edition of **World Sustainable Development Summit** (WSDS 2018) was held at VigyanBhawan in New Delhi. It was inaugurated by Prime Minister Narendra Modi.

WSDS is flagship forum of The Energy and Resources Institute (TERI). It seeks to bring together global leaders and thinkers in the fields of sustainable development, energy and environment sectors on common platform.

The WSDS series seeks to bring together the finest minds and leading thinkers of the world to focus attention on the challenge of sustainable development and has emerged as a landmark event addressing issues pertinent to the future of humanity.

An exhibition, named as '**Greenovation Exhibition**' will be exhibiting the latest technological advancements to meet Sustainable Development Goals.

The theme of the 2018 Summit is 'Partnerships for a Resilient Planet'.

Do You Know?

- WSDS has replaced TERI's earlier called Delhi Sustainable Development Summit (DSDS)
- TERI was ranked second among world's best climate think tank by the International Centre for Climate Governance (ICCG).

Q.18) Which among the following statements is/are true about Talanoa Dialogue?

1. It is an important international conversation in which countries will check progress and seek to increase global ambition to meet the goals of the Paris Climate Change Agreement.
2. The Dialogue was launched at the UN Climate Change Conference COP23 in Bonn.

Choose the correct answer:

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

Q.18) Solution (c)

With the official launch of the **2018 Talanoa Dialogue** in January, countries are now embarking on the first global assessment of collective efforts to achieve the Paris goals.

It is an important international conversation in which countries will check progress and seek to increase global ambition to meet the goals of the Paris Climate Change Agreement.

Do you know?

The Dialogue was launched at the UN Climate Change Conference **COP23 in Bonn** in November 2017 and will run throughout 2018. The Paris Agreement's central goal is keep the global average temperature rise to below 2C degrees and as close as possible to 1.5C.

Q.19) Identify the incorrect pair from the below:

(Financial Mechanism) : : (Associated Convention)

- a) Green Climate Fund (GCF) : : COP 16 held in Cancun
- b) Global Environment Facility (GEF) Fund : : eve of the 1992 Rio Earth Summit
- c) Special Climate Change Fund (SCCF) : : Kyoto Protocol in 2001
- d) Adaptation Fund (AF) : : Paris Convention 2015

Q.19) Solution (d)

Adaptation Fund (AF) was established in 2001 to finance concrete adaptation projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change.

The Adaptation Fund is financed with a share of proceeds from the clean development mechanism (CDM) project activities and other sources of funding. The share of proceeds amounts to 2 per cent of certified emission reductions (CERs) issued for a CDM project activity.

The Adaptation Fund is supervised and managed by the Adaptation Fund Board (AFB). The AFB is composed of 16 members and 16 alternates and meets at least twice a year (Membership of the AFB).

Do you know?

National Adaptation Fund for Climate Change (NAFCC) – a Central Sector Scheme was set up in the year 2015-16.

The overall aim of NAFCC is to support concrete adaptation activities which mitigate the adverse effects of climate change.

The projects related to adaptation in sectors such as agriculture, animal husbandry, water, forestry, tourism etc. are eligible for funding under NAFCC.

National Bank for Agriculture and Rural Development (NABARD) is the National Implementing Entity (NIE).

THINK!

- What is the financial mechanism for UNFCCC? What are the other funds?
- Know about different Funds. (<http://bigpicture.unfccc.int/content/climate-finance/what-is-the-financial-mechanism-what-are-the-other-funds.html>)

Q.20) Consider the following statements and select the correct one:

- a) Decreasing levels of ozone in the stratosphere will lead to reduction in the levels of smog in major cities.
- b) Decreasing levels of ozone in the stratosphere will lead to increase in the occurrence of skin cancer in humans.
- c) Decreasing levels of ozone in the stratosphere will lead to reduction in rate of global warming.
- d) Decreasing levels of ozone in the stratosphere will lead to increase in photosynthetic activity of phytoplankton.

Q.20) Solution (b)

Ground-level ozone is involved with smog formation, not ozone in the stratosphere.

While tropospheric ozone is considered a greenhouse gas, stratospheric ozone is not thought to have a significant effect on global warming.

Decreasing levels of stratospheric ozone result in increased levels of ultraviolet radiation reaching the ocean, which may inhibit phytoplankton photosynthetic activity in surface waters.

The increased levels of ultraviolet radiation can also negatively affect human health.

THINK!

- What are the difference between ozone in the stratosphere and ground-level ozone?
- Why ground-level ozone are formed or why ozone in stratosphere is decreasing?
- Ozone related conventions and protocols.

Q.21) Global Environment Facility provides grants for projects related to:

1. Climate change
2. Ozone layer
3. International waters
4. Land degradation
5. Persistent Organic Pollutants

Choose correct answer from the code given below:

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

d) 1, 2, 3, 4 and 5

Q.21) Solution (d)

GEF provides grants for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants.

The Global Environment Facility (GEF) unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives. Today the GEF is the largest public funder of projects to improve the global environment.

The GEF also serves as financial mechanism for the following conventions:

- Convention on Biological Diversity (CBD)
- United Nations Framework Convention on Climate Change (UNFCCC)
- UN Convention to Combat Desertification (UNCCD)
- Stockholm Convention on Persistent Organic Pollutants (POPs)
- Minamata Convention on Mercury

Q.22) Recently, Foreign Investment Promotion Board (FIPB) was abolished. Consider the following statements about FDI approving authorities after abolition of FIPB

1. FDI from Pakistan and Bangladesh has to be approved by the Ministry of Home Affairs
2. Foreign investments by non-resident Indians has to be approved by Department of Industrial Policy and Promotion (DIPP)

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.22) Solution (c)

FIPB was an inter-ministerial body housed in the Department of Economic Affairs in the finance ministry responsible for processing foreign direct investment (FDI) proposals and recommending for approval to the finance minister and subsequently to the Cabinet Committee on Economic Affairs if the investment amount exceeded Rs3,000 crore.

Now individual departments of the government have been empowered to clear FDI proposals in consultation with DIPP which will also issue the standard operating procedures for processing applications.

All FDI from Pakistan and Bangladesh and FDI proposals requiring approval of private security agencies and manufacture of small arms will require to be approved by Ministry of Home Affairs. While foreign investments by non-resident Indians and FDI in retail and export oriented units will be approved by DIPP, FDI in banks will be approved by the Department of Financial Services. DIPP or Department of Economic Affairs will undertake a quarterly review of FDI proposals.

Financial Services not regulated by a regulator or where there is more than one regulator or in respect of which there is a doubt about the regulator will be approved by Department of Economic Affairs, Ministry of Finance.

THINK!

- FEMA and FCRA

Source: <http://www.livemint.com/Politics/Cs8tkz7CqpiTGx4qnoDBQP/FIPB-abolished-What-happens-to-foreign-investors-now.html>

Q.23) Consider the following statements about 'INS Khanderi'

1. It is an Indian Navy's torpedo launch and recovery vessel
2. It is designed by French naval defence and energy company DCNS and built by Mazagon Dock Limited (MDL)

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.23) Solution (b)

INS Khanderi (2017) is the second of the Indian Navy's six Kalvari-class submarines being built in India. It is a diesel-electric attack submarine which is designed by French naval defence and energy company DCNS and being manufactured at Mazagon Dock Limited in Mumbai.

INS Khanderi, named after Maratha king Chhatrapati Shivaji's island fort Khanderi.

THINK!

- INS Kalvari and INS Karanj
- Project 75

Source: <http://www.newindianexpress.com/nation/2017/jun/02/second-scorpene-class-submarine-ready-for-sea-trials-jaitley-1611824.html>

Q.24) SEBI has formed a Committee on Corporate Governance. It is under the chairmanship of

- a) TSR Subramanian
- b) N Chandrasekaran
- c) Anand Mahindra
- d) Uday Kotak

Q.24) Solution (d)

SEBI constituted a series of committees — Kumar Mangalam Birla Committee in 2000, Narayana Murthy Committee in 2003 and Adi Godrej Committee in 2012 — to come up with more elaborate governance norms for India Inc. The present corporate governance norms, enshrined in the Companies Act, SEBI listing regulations and Clause 49 of the listing agreement are the result of deliberations by these committees. Yet another committee — the Uday Kotak committee — has recently been tasked with a further review.

Recommendations

- Splitting up the roles of Chairman and Managing Director or Chief Executive Officer in a company.
- Making a parent company's audit committee responsible for checking the books of its group companies
- Independent directors should make up at least half of every company's board and should attend at least half of the board meets
- A minimum of 6 independent directors, including at least one woman director, should be appointed on the board of a listed company
- SEBI to have the right to pull up auditors for any lapses in corporate governance norms and penalise them for the same. This will ensure diligent auditing of company processes and funds.

- It recommended imposing more checks and balances on royalty and brand payments, related-party transactions and sharing of information between the company management and entities that are not a part of the board, and creation of an independent shareholding structure for listed public sector undertakings so as to reduce their dependency on administrative ministries
- Creation of a formal channel to facilitate sharing of information between promoters and the company
- Disclosure of all rating actions by companies, and mandating a minimum qualification for independent directors

Source: <http://www.thehindu.com/business/sebi-forms-committee-on-corporate-governance/article18707720.ece>

Q.25) Consider the following statements about 'MERIT Portal'

1. It is launched by the Department of Financial Services under the guidance of Department of Higher Education.
2. It provides a single window electronic platform for Scholarships and Educational Loans.

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.25) Solution (d)

'MERIT' - Merit Order Despatch of Electricity for Rejuvenation of Income and Transparency

- The portal has been developed by Ministry of Power in association with POSOCO and Central Electricity Authority.
- It displays extensive array of information regarding the merit order of Electricity procured by States such as daily source-wise power purchases of respective states/UTs.

Source: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=166867>

Q.26) Consider the following statements about 'Kanyashree Prakalpa'

1. It aims to improve the status of adolescent girls from disadvantaged families through small cash transfers
2. It is a Centrally Sponsored Scheme (CSS)

Select the correct statements

- a) 1 Only
- b) 2 Only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.26) Solution (a)

Kanyashree Prakalpa, the scheme launched by West Bengal in October 2013 won the WB government the United Nations Public Service Award at The Hague.

India was named first in the Asia-Pacific group for the category: 'Reaching the Poorest and Most Vulnerable through Inclusive Services and Participation'.

The government of West Bengal was the awarded institution for Kanyashree which aims to improve status of adolescent girls from disadvantaged families through small cash transfers.

The “Kanyashree Prakalpa” is a targeted conditional cash transfer scheme aimed at retaining girls in schools and other educational institutions. It also aims towards skill development and prevent child marriage.

The award is given on the occasion of The United Nations Public Service Day. It was celebrated in The Hague, Netherlands in 2017.

Source: <https://www.thehindubusinessline.com/news/national/bengal-govts-kanyashree-scheme-bags-un-award/article9736259.ece>

