1. Describe the physiographic features of the Tibetan plateau. How does the Tibetan plateau affect the weather pattern in the Indian subcontinent? Explain.

Demand of the question:

It expects students to give a clear account of the physiographic features of the Tibetan plateau. It also expects students to explain how does the Tibetan plateau affect weather pattern in the Indian subcontinent.

Introduction:

The Tibetan Plateau, also known as the Himalayan Plateau in India is a vast elevated plateau in Central Asia and East Asia, mostly covers parts of the India, Bhutan and China.

Body:

Physiographic features of the Tibetan plateau:

- Physiography of an area is the outcome of structure, process and the stage of development.
- The Tibetan Plateau is usually considered the largest and highest area ever to exist in the history of Earth. The plateau covers an area about half the size of the contiguous United States and averages more than 5,000 meters (16,400 feet) above sea level.
- The Tibetan Plateau is extremely important to the world's water cycle because of its tremendous number of glaciers. These glaciers contain the largest volume of ice outside the poles.
- The Tibetan Plateau is surrounded by the massive mountain ranges of High-mountain Asia. The plateau is bordered to the south by the inner Himalayan range, to the north by the Kunlun Mountains, which separate it from the Tarim Basin, and to the northeast by the Qilian Mountains, which separate the plateau from the Hexi Corridor and Gobi Desert.
- The northern section of the plateau, called Qiangtang, is dotted with many brackish lakes; its southern section contains the headwaters of the upper Indus and Brahmaputra rivers.
- To the east and southeast the plateau gives way to the forested gorge and ridge geography of the mountainous headwaters of the Salween, Mekong, and Yangtze rivers in northwest Yunnan and western Sichuan (the Hengduan Mountains).
- In the west the curve of the rugged Karakoram range of northern Kashmir embraces the plateau. The Indus River originates in the western Tibetan Plateau in the vicinity of Lake Manasarovar.
- Other rivers that have their headwaters in the highlands are the Yangtze River (Chang Jiang), the Huang He (Yellow River), the Mekong, the Salween, and the Tarim.
- Grasslands are used for pasturage, and barley is grown on the plateau; forests grow on the slopes of valleys, particularly in the south.
- The most extensive farming in Tibet takes place on the fertile plains of the Brahmaputra River and its tributaries.

- Lhasa, the capital of Tibet, is the plateau's major centre of population, economic activity, culture, and air and land transportation.

Tibetan plateaus effect on weather pattern in India Subcontinent:

- Monsoons are caused by the different amplitudes of surface temperature seasonal cycles between land and oceans. This differential warming occurs because heating rates differ between land and water.
- Tibetan plateau is an important heating surface of the atmosphere. Approximately 2,400,000 square kilometres (930,000 sq mi) ice sheet covered the plateau.
- Onset of the summer monsoon in the beginning of June is promoted by the hydrodynamic effect the Himalayas and not by the thermally induced low-pressure centre over northwest India.
- With a much lower latitude, the ice in Tibet reflects at least four times more radiation energy per unit area into space than ice at higher latitudes. Solar heating in late spring heats the Indian subcontinent, making it warmer than the Indian Ocean. It also warms the Tibetan plateau that acts as an elevated heat source. This drives southwest monsoon winds towards the Indian landmass.
- The snow-monsoon tele-connection works by altering this temperature gradient. There is dominant effect of the Himalaya and Tibetan plateau snow on monsoon is because of albedo, the reflectivity of snow. Increased snow cover over the Himalaya and Tibetan plateau reflects more solar radiation, resulting in less than normal warming of the land surface there. Consequently, the temperature gradient decreases and monsoon winds weaken. This means they bring less moisture to India and don't penetrate as far north.
- The Tibetan plateau is the high level source of heat during summer time. During southwest monsoon, a thermal anticyclone appears over Tibet, which the resultant formation of dynamic anti-cyclogensis. On the south side of the anticyclone, the tropical jet stream is from.
- As a result, there is a sensible heat transfer from the elevated surfaces of the Himalayas and Tibet to the atmosphere. Besides this, large amounts of latent heat released by monsoon rains over India are also added to the upper troposphere anticyclone.
- Thus the presence of Tibet Highland is very important, as it helps for the onset of monsoon and helps to protect India from the northern cold winds.

Conclusion:

The Tibetan plateau due to its distinct and unique physiographic features plays a vital role on the weather of Indian subcontinent and also has a geopolitical strategic significance as it is known as the "Rooftop of the World;" Hence, more study of this plateau can also help to tackle the emerging challenge of the global warming induced climate change.

2. How do oceanic currents impact the global weather pattern? Illustrate with the help of suitable examples.

Demand of the question:

It expects students to give a clear description of the mechanism of the oceanic currents. It also expects students to elaborate in detail the impact of oceanic currents on the global weather pattern with examples.

Introduction:

The ocean covers 71 percent of the planet and holds 97 percent of its water, making the ocean a key factor in the storage and transfer of heat energy across the globe. The movement of this heat through ocean currents affects the regulation of global weather pattern.

Body:

Ocean currents are located at the ocean surface and in deep water below 300 meters (984 feet). They can move water horizontally and vertically and occur on both local and global scales.

- The ocean has an interconnected current, or circulation, system powered by wind, tides, the Earth's rotation (Coriolis effect), the sun (solar energy), and water density differences.
- The topography and shape of ocean basins and nearby landmasses also influence ocean currents. These forces and physical characteristics affect the size, shape, speed, and direction of ocean currents. Figure 1 represents the ocean currents.

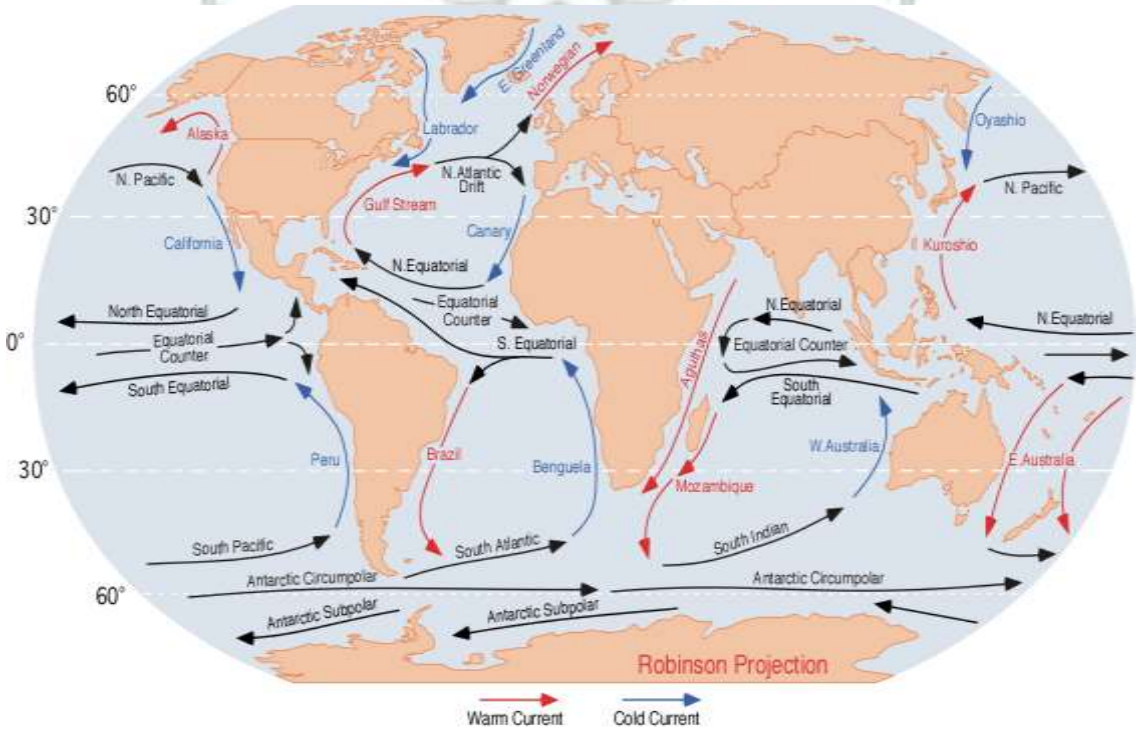

Figure 1: Oceanic Currents

- There are 2 types of Ocean Currents: First one's are Surface Currents also called Wind-Driven Currents and the second one's are Deep-water Currents also called Thermohaline Currents.
- The Surface Currents are a result of the Wind-stress and are modified by Coriolis force. deep-ocean currents are driven by differences in the water's density, which is controlled by temperature (thermo) and salinity (haline).

Impact on global weather pattern:

- Coastal Areas weather: Most of warm currents are found in eastern margin of continent in lower latitude and influencing the coastal climate such as North Atlantic drift in eastern USA, Florida current in gulf of Florida etc. So, Coastal areas will generally have more moderate temperatures than inland areas because of the heat capacity of the ocean.
- Fishing grounds: Places where cold currents meet warm currents are characterized by Fog conditions which make navigation difficult. These areas are also characterized by fishing grounds due to abundance of nutrients to support marine life. For instance, In E. Asia meeting of the warm Kuroshio and the cold Oyashio current provides ideal conditions for rich fishing grounds in Japan.
- Desiccating effects: Cold current brings the temperature down and creates a desiccating effect and foggy condition in the coastal area through which it passes.
- El-Nino and La-Nino: El-Nino is also caused due to periodic changes in cold water current replaced by warm water currents off Peruvian coasts which affects weather pattern of South Asia, Africa, and Oceania.
- Global Thermohaline circulation: Ocean currents act as global conveyor belts which transfer heat from one part of the earth to another. They regulate the coastal climate thereby indirectly regulating the vegetation, fauna and the lifestyles of the people.
- Great ocean conveyor belt: The global conveyor belt includes both surface and deep ocean currents that circulate the globe in a 1,000-year cycle. The global conveyor belts circulation is the result of two simultaneous processes: warm surface currents carrying less dense water away from the Equator toward the poles, and cold deep ocean currents carrying denser water away from the poles toward the Equator.
- The ocean's global circulation system plays a key role in distributing heat energy, regulating weather and climate, and cycling vital nutrients and gases.
- Desert: Cold current are generally found in the western margin of the continents in lower latitudes, usually associated with the desert landforms in these latitudes e.g. California current in western USA, Peru current in western south America etc.
- Temperature and Humidity: Warm current increases the temperature and humidity of the coastal area through which it passes, such as the Norwegian current which increase the temperature of the coastal areas of North Sea make the port workable and climate cool and moist.

Here we have seen the impact of ocean currents on the global weather pattern. However, due to global warming induced climate change the flow of ocean currents is affected in some regions. Such as, evidence from Greenland ice cores, showed that the North Atlantic circulation could come to an abrupt halt within the space of a century or two. Fears arose that global warming might trigger such a switch, which could wreak serious harm.

Conclusion:

As we know that climate change is the biggest global challenge from the environmental perspective, the knowledge of Ocean currents and their circulation can help to minimize the negative effect of climate change and will also help to re-establish the balance of the nature.

3. Which parts of the world are most prone to floods? With the help of suitable examples, explain the most common physiographic features that cause flooding of a place.

Demand of the question:
It expects students to give an account of the world's most flood prone areas. The question also expects an elaboration on the most common physiographic features that cause flooding of a place.

Introduction:
Floods are the most frequent type of natural disaster and occur when an overflow of water submerges land that is usually dry. Floods are often caused by heavy rainfall, rapid snowmelt or a storm surge from a tropical cyclone or tsunami in coastal areas.

Body:
The flood prone areas are well scattered in different parts of the country, ranging from the heavy rainfall areas to the scanty rainfall areas. According to the 'Coastal city Index', a research based in Netherlands and UK, following parts of the world are prone to flood:

- The South Asia including south eastern part of China.
- African continents South eastern part along with the area surrounding the Gulf of Guinea.
- South eastern part of North American continent and North western as well as South eastern part of South America.

Physiographic causes of flooding:

- Heavy Rains: The simplest explanation for flooding is heavy rains. Heavy rainfall can result in water arriving too quickly to infiltrate the soil. This increases surface run-off, leading water to reach the river channel quicker, resulting in a greater risk of flooding.
- Prolonged rainfall: Soil becomes saturated after prolonged rainfall. This leads to an increase in surface run-off as rainfall can no longer infiltrate the soil. This leads to more water entering the river channel increasing the likelihood of flooding.
- Lack of Vegetation: Vegetation can help slow runoff and prevent flooding. When there is a lack of vegetation, however, there is little to stop water from running off.
- Relief and Melting Snow and ice: The steeper the slope the more rapid the flow of water into a river channel, increasing the risk of flooding. A winter of heavy snow and other precipitation can lead to a spring of flooding. Most mountainous areas experience relatively consistent snowfall totals from year to year, but an unusually heavy winter of precipitation can spell bad news for low-lying areas around the mountains when spring hits.
- Soil type: Very wet, saturated soils, compacted or dry soil can aggravate the flooding in the surrounding area.

- Geology: Impermeable surfaces such as clay and granite do not allow infiltration leading to greater surface run-off. The risk of flooding increases as water reaches the river channel quickly, increasing discharge and the risk of flooding.

Conclusion:
Due to global warming as the sea level is going to rise, it is going to increase the frequency of floods in the flood prone areas. Hence, it becomes imperative to be prepared, to tackle the challenge of flooding in near future, as this challenge is going to pose numerous challenges ranging from increasing intensity of flooding to its wide scale effect on the GDP's of the country.

4. What are shields? How are they formed? Examine the distribution of shields in the world.

Demand of the question:
It expects students to explain about the shields and their formation process. It also expects students to present clear data about the distribution of shields in the world.

Introduction:
A shield is a large area of exposed Precambrian crystalline igneous and high-grade metamorphic rocks that form tectonically stable areas. These rocks are older than 570 million years and sometimes date back 2 to 3.5 billion years.

Body:
Shields have been little affected by tectonic events following the end of the Precambrian, and are relatively flat regions where mountain building, faulting, and other tectonic processes are minor, compared with the activity at their margins and between tectonic plates.

Formation of Shields:

- A shield is that part of the continental crust in which these usually Precambrian basement rocks crop out extensively at the surface.
- Shields themselves can be very complex: they consist of vast areas of granitic or granodioritic gneisses, usually of tonalitic composition, and they also contain belts of sedimentary rocks, often surrounded by low-grade volcano-sedimentary sequences, or greenstone belts.
- Shield form over the years through processes such as plate tectonics, erosion and glaciations. Plate tectonics refers to the movement and collision of the Earth's outer crust. When these crustal plates collide they may weld together, forming larger landmasses.
- These rocks are frequently metamorphosed greenschist, amphibolite, and granulite facies. It is estimated that over 50% of Earth's shields surface is made up of gneiss.

Distribution of shields in the world:

- Shield areas in general are regarded as continental nuclei, the observation often being made that most continental shields are bordered by belts of folded rocks of post-Precambrian age. Following figure 1 represents distribution of shields in the world.
- Shields, occur on each of the continents. One of the best known is the Canadian Shield, which extends from Lake Superior on the south to the Arctic Islands on the north, and from western Canada eastward, to include most of Greenland.
- In South America, the principal shield area is called the Amazonian Shield. It occupies much of the eastern bulge of the continent. Smaller areas of Precambrian rocks to the north and south of the Amazonian Shield are designated the Guiana and Platian shields, respectively.

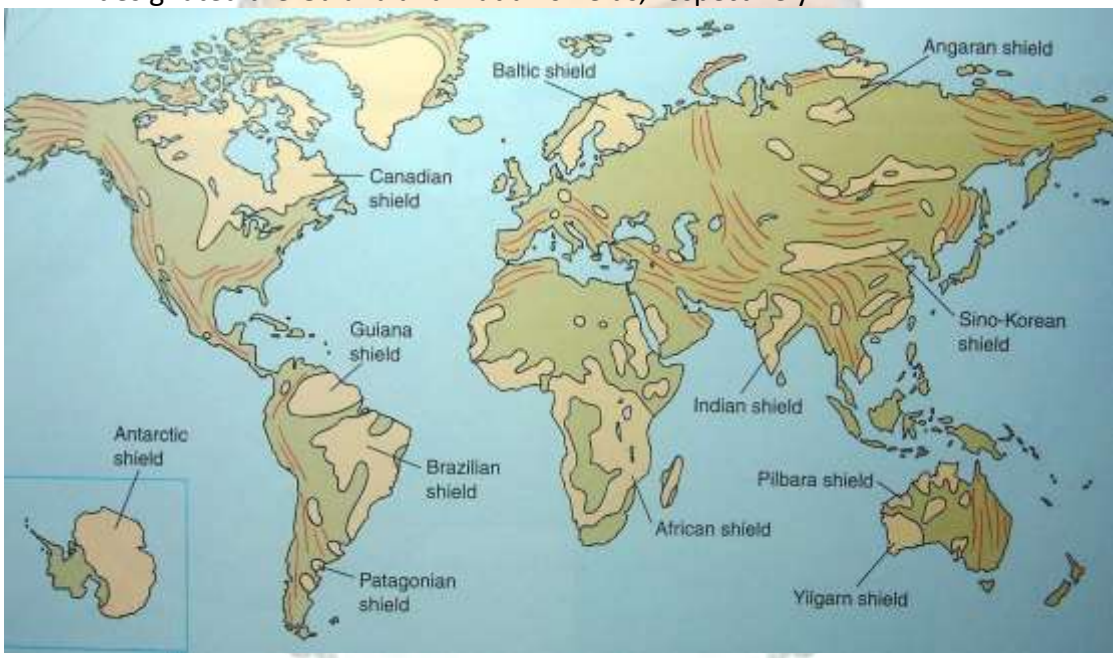

figure 1

- The Baltic, or Fennoscandian, Shield occupies most of Finland and Sweden, as well as eastern Norway. It is bordered on the west by the Caledonian Belt of younger, folded rocks.
- The African Shield, sometimes called the Ethiopian Shield, extends eastward to include western Saudi Arabia and the eastern half of Madagascar.
- The southern two-thirds of peninsular India, most of the western half of Australia, and the eastern segment of Antarctica are also areas of continental shields. These areas of Precambrian rocks are termed, appropriately, the Indian Shield, the Australian Shield, and the Antarctic Shield.
- In Asia the name Angaran Shield is applied to a large stable block bounded by the Lena and Yenisey rivers on the east and west and by the Arctic Ocean and Lake Baikal to the north and south.

Based on their location Shields are also known to provide other economic benefits like:

- Dharwad Shield with laterite soil has promoted development of building materials like bricks.
- Baltic shield: with glacier retreat shield depressions have turned into lakes supporting inland transport in Sweden and Finland.

Conclusion:

We have seen that based on their location shields have different economic significance. Hence, it becomes important to understand more about the characteristics of shields so that their true potential can be used to achieve sustainable development.

5. How do geographic features of a place aid to pollution? Explain with the help of suitable examples.

Demand of the question:

It expects students to put a clear picture of how do geographic features of a place aid to pollution with relative examples.

Introduction:

Pollution is the introduction of harmful materials into the environment. Pollution can be caused by the natural as well as human factors. Geographical features of a place aid pollution in natural as well as human related ways.

Body:

Geographical features aid to Pollution:

- Mountains: Mountains stop the horizontal transport of smog, or divert it in another direction, unless the wind is strong enough to blow over the mountain.
- For instance, Delhi-NCR lies to the north-east of the Thar Desert, to the north-west of the central plains and to the south-west of the Himalayas.
- As winds arrive from the coasts, bringing with them pollutants picked up along the way, they get 'trapped' right before the Himalayas.
- Wind direction: Winds originating from over the desert landscapes gets trapped inside two parallel mountainous system. Hence, being not able to pass from one direction to other it settles down over the region between two mountains hence, it aids the pollution.
- The region becomes a "bowl" that collects pollutants, with only a narrow outlet for it to escape.
- For instance, The air pressure pushes from one direction, and with the inability to escape quickly in the other, the particulate matter accumulates over the northern plains i.e. the entire expanse between Punjab in the west to West Bengal in the east, including Delhi.
- Distant away from coastal regions: The most fundamental parameter that impacts air quality is the speed and direction of wind. The wind carries the air pollutants away from it. Winds origination from coastal areas carry away with them pollutants.

- Resulting in freeing the nearby area from pollution.
- For example, Chennai has the third highest number of automobiles in India, next only to Delhi-NCR and Bangalore. But being a coastal city Chennai doesn't experiences same problem of pollution as that of the Delhi-NCR.
- Cropping pattern and cycles: Depending on the geographical features farming practises are established. As we know in the plains of Punjab wheat crop is harvested during the times of winter. Hence, stubble burning takes place. It aggravates the pollution in adjoining Northern Indian regions.
- As the Cropping pattern and cycle is based on the geographical features it aids the pollution. As to intensify the production use of pesticides and fertilizers takes place.
- Excess amount of pesticide and fertilizer in fresh water gives rise to water pollution.
- River water moves slowly in the plain areas hence, it is likely possible that the pollutants may accumulate in to the water and result in pollution of major rivers. e.g. Han River in Wuhan.
- Also, many of the industrial areas are also established based on the availability of the required raw material in the surrounding area and other factors. As concentration of the industries takes place in one particular area due to geographical factors it helps to aggravate the pollution problem.
- For instance, brick kilns industry's concentration in one particular area can add up to air pollution.
- Land Pollution: Many of the same pollutants that foul the water also harm the land. Mining industries located in specific geographic regions due to their need of raw materials, sometimes leaves the soil contaminated with dangerous chemicals.

Actions to combat Geographically aided pollution:

- Countries around the world are tackling various forms of pollution. China, for example, is making strides in cleaning up smog-choked skies from years of rapid industrial expansion, partly by closing or cancelling coal-fired power plants.
- Increased use of clean renewable energy: As burning fossil fuels contribute major chunk of pollution. Shifting to clean and renewable energy sources is the best way to reduce the intensity of pollution. For example, India is aiming to produce 175GW of renewable energy by 2022.
- Introducing the new technological innovations such as smog towers installed in Delhi-NCR.
- Integrated waste management & circular economy policy can be implemented.
- Efforts to combat pollution will contribute to SDG 3 (good health and well-being). SDG target 7.2 on access to clean energy in the home, SDG target 11.6 on air quality in cities, SDG target 11.2 on access to sustainable transport and SDG 13 (climate action), as well as the goals of the Paris Agreement on climate .

Conclusion:
As we have understood that geographical feature aids the pollution and pollution is emerged as one of the major global threats; a proper, clean and planned approach will help to reduce the impact of pollution and helps to achieve the clean & clear environment for the people.

6. What are 'internet balloons'? Why was it in news recently? Discuss.

Demand of the question:
It expects students to discuss various perspectives of 'internet balloons' and present a logical arguments regarding its advantages and disadvantages.

Introduction:
Billions of people around the world are still without internet access. Loon is a network of balloons travelling on the edge of space, delivering connectivity to people in un-served and underserved communities around the world. In short, internet balloon is a device which provides internet connectivity while floating in the air.

Body:
Recently, A fleet of high-altitude balloons started delivering internet service to Kenya , extending online access to tens of thousands of people in the first-ever commercial deployment of the technology.

- The balloons, which hover about 12 miles up in the stratosphere — well above commercial airplanes — will initially provide a 4G LTE network connection to a nearly 31,000-square-mile area across central and western Kenya, including the capital, Nairobi.
- It is now being fast-tracked to help improve communications during the corona virus pandemic.
- Loon, a unit of Google's parent company, Alphabet, launched 35 balloons to provide internet connectivity in Kenya.

Technology used in internet balloons:

- Delivering connectivity from balloons flying 20 km up in the stratosphere poses a unique set of engineering challenges. To expand connectivity to un-served and underserved areas around the world, Loon combines advancements in materials science, atmospheric modelling, machine learning, communications systems, and more.
- Loon balloons are designed and manufactured to endure the harsh conditions in the stratosphere, where winds can blow over 100 km/hr, and temperatures can drop as low as -90° C.
- Balloon made from sheets of polyethylene, each tennis court-sized balloon is built to last for well over 100 days before landing back on Earth in a controlled descent.
- Antennas transmit connectivity from ground stations, across a balloon mesh network, and back down to a user's LTE phone. A user needs nothing more than a standard LTE phone to connect to a Loon balloon.

Advantages of Internet balloon:

- Internet balloon bills the service as a cost-effective solution to the difficult challenge of bringing internet access to people in underserved remote areas.
- This could be effective in scattered population regions, such as in Africa, where just over 28 percent of the continent's 1.3 billion people were using the internet in 2019 — the lowest rate in any region worldwide — according to the International Telecommunication Union, a United Nations agency.
- It would be a cheaper solution than installing fibre optic cables or building mobile phone masts across the areas which contain jungles and mountains.

Disadvantages of Internet balloon:

- Coverage: Due to its lower height, its signals cover a relatively small area. As a result, many more balloon are needed in order to reach signals to every part of the area.
- Difficulty for aeroplanes: The Internet balloons float in the stratosphere. As aeroplanes too fly in the stratosphere, Internet balloons pose a serious threat of air disaster if not controlled neatly.
- Difficulty in Space Studies: The constellations of internet balloons will make it difficult to observe space objects, and to detect their signals.

Conclusion:

With its high end technology internet balloon can prove to be an essential solution to the problem of expanding internet to the every corner of the world. But, at the same time more improvement is needed in them to reduce their drawbacks and achieving the internet connectivity to all.

7. Discuss the solar potential of South Asia. What have been some of the major achievements on the solar front in India? Discuss.

Demand of the question:

It expects students to discuss the solar potential of South Asia based on its characteristics. It also expects to give a account of the major achievements on the solar front in India.

Introduction:

The development of Solar energy technologies is now widely recognized as a crucial component in providing an integrated solution to rising demand of energy across the world. In South Asia, a number of developing countries like India, Sri Lanka, and Maldives are looking into inexhaustible and repeatable alternative energy sources such as solar energy.

Body:

Energy supply and security are major challenges on the road to development in the South Asian countries. Energy use traces the total amount of energy consumed by the end user. This includes domestic production as well as imports.

- Per capita electricity consumption of South Asian countries accounts to around 2600 kWh.
- Many South Asian countries depend on a single source to provide more than 50% of total electricity generation including India (Coal – 67.9%), Nepal (Hydropower – 99.9%), Bangladesh (Natural gas – 91.5%) and Sri Lanka (Oil – 50.2%).
- In many countries less than 5% of energy consumed comes from renewable resources.
- Access to electrical energy varies from 41% in Afghanistan to 100% in Maldives in 2010.
- Also, world over almost every country is facing the emerging challenges posed by climate change. Which is catalysed due to heavy reliance on the fossil fuels and conventional energy sources.

The South Asian countries have huge potential for solar energy resources.

- Solar energy has its applications in electricity generation, cooking and water heating. It helps in less consumption of fuel wood, kerosene and batteries, and also helps to improve local air quality.
- As we know, Rural areas in many of the South Asian countries rely excessively on the consumption of wood, kerosene, which affects health of the People and environment in various ways. Hence, Solar energy has advantage to be applied as an energy resource in the South Asian countries.
- As per 'Global Solar Atlas' South Asian countries have potential to generate around 32 kWh solar energy per day for average household consumption.
- Once adapted on a wide scale it will benefit in various ways such as Illumination for rural education and access to information and communication technology.
- It will also reap benefits by aiding socio-economic development through Improved quality of life as well as better health and sanitation through streetlights and boiled water.

Solar power in India is a fast developing industry. India's solar installed capacity reached 35.12 GW as of June 2020. India has the lowest capital cost per MW globally of installing solar power plants.

- Indian government had an initial target of 20 GW capacity for 2022, which was achieved four years ahead of schedule.
- In 2015 the target was raised to 100 GW of solar capacity (including 40 GW from rooftop solar) by 2022, targeting an investment of US$100 billion.
- India has established nearly 42 solar parks to make land available to the promoters of solar plants.
- India expanded its installed solar power capacity by 233 times from 161 MW to 37,627 MW.
- Rooftop solar power accounts for 2.1 GW, of which 70% is industrial or commercial. In addition to its large-scale grid-connected solar photovoltaic (PV) initiative, India is developing off-grid solar power for local energy needs.

- Solar products have increasingly helped to meet rural needs; by the end of 2015 just under one million solar lanterns were sold in the country, reducing the need for kerosene.
- 34 solar parks of aggregate capacity of 20,000 MW have been sanctioned for 21 states. INR 356.63 crores has been released to Solar Energy Corporation of India for the projects.31,472 solar water pumps were installed in 2015-16; this is higher than total number of pumps installed during the last 24 years since 1991.
- Recently, Asia's largest 750-megawatt (MW) Rewa ultra-mega solar power project is inaugurated in Madhya Pradesh
- The International Solar Alliance (ISA), proposed by India as a founder member, is headquartered in India.

However, Solar energies lacuna's can't be blindsided, as it requires sizeable amount of land, and poses environmental hazards if the production process not handled appropriately.

Conclusion:

Solar energy due to its abundance has an enormous potential for use and wide scale applications. Considering this potential and applicability, India has put forward step in the right direction, which will surely help to realise the concept of "One Sun One World One Grid" to harness abundant solar power on global scale.

8. How has the spread of the COVID-19 pandemic affected the supply and distribution of oil resources? Examine.

Demand of the question:

It expects students to probe deeper into the effect on supply and distribution chain of oil resources due to COVID-19 and explain it in detail with relevant facts and examples.

Introduction:

On the world scale, global oil demand shrunk by ~15-20 million barrels for day (mbpd) due to COVID-19 pandemic. India which accounts for, oil imports at 84% and gas imports at 53%, also faced reduction in oil resources demand nearly by 30% of their respective annual demands.

Body:

The impact of COVID-19, whether due to the wide-spread demand destruction, or the downward spiral of crude prices, is of enormous concern for all of the oil resource industry participants. Effect on supply and distribution of oil resources can be observed as follows:

- In an unprecedented event, oil for the first time in history breached the $0 mark. Hence, cheaper fuel is available to customer in the short run.
- A condition called 'Super Contango' spread its dark clouds over the oil resource industry. A Contango market implies that oil traders believe crude

prices will rally in the future. Thus, spot prices are being offered at super discounts to futures prices.

- One of the major likely impact is the availability of workforce and resources. As due to lockdown, workers numbers are reduced due to transportation constraints and health reasons.
- The primary reason behind this freefall is the lack of fuel demand across the world followed by a glut in global oil markets leading to an acute dearth of available storage capacities.
- Like the oil production situation, the major oil refinery companies have not stopped buying oil from oil producing companies, hence production of refined oil posed question of consumption.
- With no recovery in sight in the foreseeable future, the key issue of oil storage is likely to stay.
- Keeping track of logistics, containing the oil spillage, and pilferage from the containers are exacerbating the problem in this pandemic.
- The downstream supply chain i.e. distribution chain is hard hit due to COVID-19 pandemic. As there is sudden fall of demand and production lines are producing at the same rate before COVID-19 situation, transition market space from supply to demand is creating major bottlenecks in the entire supply demand chain.
- Once the lockdown is lifted the market will see a sudden rise in demand, which will require robust supply and transportation planning capability, to meet such demands even the supply is overstocked.
- However, drastic fall in the demand and supply chain of oil has resulted in one positive aspect by helping to reduce the consumption of fossil fuels, in turn helping the environment in the short run.

Necessary steps to reduce the impact:

- Solutions such as Internet of things enabled remote diagnostics, monitoring tools can be optimally used in the situation. It will reduce dependency on the physical presence of workforce.
- Emerging technologies can be used to meet the near-term benefits and long-term benefits , such as remote container tracking and health monitoring can provide ready alerts, for oil spillage and pilferage.
- Robust fleet management can answer the transportation needs.
- Digital solutions can be applied to meet the smart demand supply match, to reach to end customers based on the probable demand supply match.

Conclusion:

In the backdrop of COVID, when all hands on decks are needed to tackle the "urgent" task of reviving the economy, the government must not, in the process, lose sight of the "importance" of creating, if nothing else, the mindset of preparedness to respond to "just in case outcomes".

9. India will have to regulate Ayurveda to meet the demand for natural remedies in the world market. Comment.

Demand of the question:

The question expects students to write about the need to regulate the Ayurveda to meet the demand for natural remedies in main points/core and give one's opinion based on the information or the arguments originated from the reading.

Introduction:

Natural remedies knowledge in Ayurveda carries thousands of years of tradition. The knowledge of Natural remedies has came in to limelight during the COVID-19 pandemic, especially on the need to regulate the Ayurveda to meet the demand for natural remedies in the world market.

Body:

Modern thinking is creeping into alternative medicine. This is good, and India stands to gain enormously as a producer and exporter of traditional herbal medicines.

- The world's growing fascination with natural remedies, traditional and alternative medicines and herbs augurs well for India. These can provide a substantial source of income for farmers and companies across the country.
- A very small quantity of herbal medicines produced in India is exported, as they do not meet the regulatory standards required by importing countries.
- Even at its current levels, with little exports, estimates are that Ayurveda is a Rs 30,000 crore industry in India.
- Recent 'Coronil' controversy emphasises the role the government has to play beyond encouraging the use of Ayurveda.

While they can be a great source of income and exports for India, we will need a modern regulatory system to succeed.

Regulatory requirement for Ayurveda:

- At the core of promoting alternative medicines are two government regulatory functions: One, ensuring safety, and two, checking the truth of claims about efficacy.
- Contrary to popular belief, Ayurvedic medicines can be dangerous to health. The dangers arise primarily for following reasons as, all plants are not safe for consumption, use of ashes and non-plant materials, illlegal addition of allopathic medicines.
- Similarly, ashes may concentrate dangerous metals in the formulation. As recently as 2017, the Food and Drug Administration of the US warned against the use of certain Ayurvedic medicines. The FDA found the medication to contain dangerous levels of lead.
- Some unscrupulous medicine manufacturers go a step further. They mix allopathic medicines in Ayurvedic drugs, usually steroids. Some steroids (mostly corticosteroids) give a false sense of well-being by improving circulation and alertness.
- For the wrong ailments, like infections, they may accelerate the underlying disease, but since the patient gets a steroid high, he or she feels better and

ascribes it to the medicine. A study by the King Edward Memorial Hospital in Mumbai found around 40% of Ayurvedic drugs tested contained steroids.

- Uncontrolled use of poisonous plants, presence of heavy metals, and outright fraud (adding steroids) damages the reputation of Indian medicine. The unscrupulous and negligent manufacturers make profits by cheating, but harm the status of the entire industry.
- The problem is worse in international markets. While we in India may be able to distinguish between established brands and suspicious ones, this is difficult sitting in the foreign country. A patient with a negative experience will probably avoid all Ayurvedic medicines.

Necessary steps to regulate Ayurveda:

- The first step of regulation of medicines is to ensure safety. Irrespective of whether they have any therapeutic effect, an AYUSH medicine should not harm patients..
- The second step after enforcing safety provisions is checking therapeutic claims.
- Making heavy penalty provision for the false claims, counterfeiting of medicines etc.

Government steps to promote and regulate Ayurveda:

- In 2003, the government published the first official list of Ayurvedic medicines, called a pharmacopoeia. The publication of a pharmacopoeia is the first step towards formalising any medical system.
- In 2014, the government merged the regulation of Ayurveda, Yoga, Unani, Siddha, and Homoeopathy (collectively called AYUSH) into a separate eponymous ministry.
- In 2017, the All India Ayurveda Institute was set up in Delhi, on the lines of the famous All India Institute of Medical Sciences. Also recently, the government decided to sell Ayurvedic medicines in Jan Aushadhi stores.

Conclusion:

Regulation of any medical system has concentrated on safety and efficacy to protect patients. Along with the promotion of AYUSH and farming of herbs, if we set up proper regulation of Ayurvedic medicines, we will not merely protect patients, but also promote Ayurveda as a safe and effective system of medicine, a system in which India can be a world leader.

10. What do you understand by the term 'geopolitics'? Explain. How does resource endowment shape the geopolitics of a region? Illustrate.

Demand of the question:

It expects students to clarify with relevant facts and implications the meaning of the term 'geopolitics'. It also expects to investigate and establish the key facts and issues related to how resource endowment shape the geopolitics of a region.

Introduction:

Geopolitics is the study of the effects of Earth's geography (human and physical) on politics and international relations. In general terms geopolitics refers to countries and relations between them.

Body:

Geopolitics focuses on political power linked to geographic space. In particular, territorial waters and land territory in correlation with diplomatic history. Topics of geopolitics include relations between the interests of international political actors focused within an area, a space, or a geographical element; relations which create a geopolitical system.

- Geopolitics requires at least two actors to be separated geographically (usually in different countries or continents). Both (or more) actors must be aware of each other.
- Geopolitics is reliant upon this kind of knowledge and geographical location.
- Knowledge of each other is important because that assumes that both actors will act strategically. For instance, if two people owned parts of a forest, it can be assumed that both people would be interested in how the other approaches fire safety, because a fire could harm everyone's land.
- The political processes include forces that operate at the international level and those on the domestic scene that influence international behaviour. Both geographical settings and political processes are dynamic, each influences and is influenced by the other.
- Geopolitics usually focuses on the subjects such as resource endowment, trade, pollution, travel, immigration etc.

As the ice started to melt in the Arctic region, Arctic ocean surrounding countries have expedited their actions to emerge as highly resource endowed by claiming more land in the Arctic. It shows the importance of resource endowment. In this COVID-19 Pandemic resource endowment has gained importance due to its effects on the International relations.

- As we know, on the Earth no country can claim that it is Self sufficient in Resources. Hence, the resource endowments of countries form the foundations of International relations. e.g. India imports more than 80% of its oil and gas needs from the Gulf region, and exports refined petroleum which forms 13.7% of total exports.
- As we know Africa is resource rich continent, but due to geographical and historical reasons this region is highly underdeveloped, surrounded by conflicts in many parts, economically down sided and lags to utilize its true potential. Hence, Countries all over the world are seeking diversification of its oil supplies away from the Middle East and Africa can play an important role in changing energy matrix.
- Multilateral engagement was launched with the first India Africa Forum Summit (IAFS) in 2008. India is investing in capacity building providing more

than $1 billion in technical assistance and training to personnel under the Indian Technical and Economic Cooperation (ITEC) program.

- Here training the human resource of the African countries is helping to improve the relations between two nations.
- The Gulf region has become a major economic partner, is home to over 4 million Indians and a major source of oil and gas. So the highly oil resource endowed region of West Asia despite the cultural differences is emerging as a major world player. For instance, Saudi Arabia exports around 16.3 billion dollars oil to India.
- Land as a resource forms the basis for security of the region. Russia with its vast expanse of landmass is a major arms and ammunitions player on the global scale. So, Many of the countries maintain good relations with Russia.
- Also resource endowments give value to say of the countries on world scale. e.g. China which accounts for more than 80% of the rare earth metals is asserts its say whenever needs to.
- South east Asian nations are the major rice and fish exporters, especially Vietnam is major exporter of Palm oil in the world. Hence, resource endowments help the small countries such as Vietnam to stand shoulder to shoulder with big developed countries like USA.
- Resource endowments ensures Security of the region. It also helps to maintain good relations for the sake of greater good of greater number of people.
- But sometimes the greediness of the resources leads to conflicts in the some regions. e.g. USA's invasion in Iran under the motive to control oil resources.

Conclusion:

As we have seen that resource endowment of countries impact the geopolitics on various fronts. Though the resources are necessary for the human civilization to survive, their excessive use will harm the nature. Hence, we need to adopt a sustainable approach while utilizing the resources, which will surely help to have good geopolitical implications.

11. Examine the distribution of freshwater resources in Asia. How is water distribution shaping the fate of this continent? Analyse.

Demand of the question:

It expects to investigate and establish the key facts and issues related to the distribution of freshwater resources in Asia. It also expects the candidate to break the issue of 'Impact of water distribution on the fate of the Asian Continent' into its constituent parts and explain how these relate to one other and present as one summary.

Introduction:

Most water in the Earth's atmosphere and crust comes from the world ocean's saline seawater, while freshwater accounts for nearly 1% of the total. The planet's fresh water is also very unevenly distributed.

Body:

Today most fresh water exists in the form of ice, snow, groundwater and soil moisture, with only 0.3% in liquid form on the surface. Of the liquid surface fresh water, 87% is contained in lakes, 11% in swamps, and only 2% in rivers. Small quantities of water also exist in the atmosphere and in living beings. Of these sources, only river water is generally valuable.

Asia has 47 percent of the global average of fresh water per person, but also has 65 percent of the world's population.

- In Asia, water shortages—both in the form of stress and scarcity—are emerging as a major social and economic threat, especially in India and China.
- The glaciers in the Himalayan region are the major source of fresh water in the surrounding regions of India, Nepal, Bhutan, China. As the Brahmaputra river originates in eastern Tibet where as the Ganges river's source is in the West. Both the rivers are perennial in nature.
- Many of the lakes such as Dal lake and Wular lake in India, Lake baikal in Siberian region of Russia, Lake Balkhash in Kazakhasthan are the main freshwater resources in the region where freshwater supplied from river is sufficient.
- The Mekong Delta - Vietnam, Candaba Swamp - Philippines, Hakaluki Hoar - Bangladesh, etc. are the major freshwater supplying swamps.

As per Asia-Pacific centre for security studies, water scarcity is likely to worsen in Asia in the years ahead. India is experiencing shortages in accessing freshwater. In 1998, it is predicted that per capita availability of freshwater was declining due to rapid population growth and industrialization.

- The per capita availability of freshwater in 2025 is expected to be 1,500 cubic meters per year, as compared to 2,200 cubic meters in 1997 and 5,300 cubic meters in 1955.
- This will have a huge negative impact on food security, as Asian agriculture is already heavily reliant on irrigation, with much of the anticipated increases in food production likely to be dependent on even higher levels of irrigation and irrigation efficiency.
- The Green Revolution resulted in increased crop yields, but achieved these yields largely through extensive irrigation and with increased reliance on freshwater. In fact, almost 70% of the world's freshwater supply is devoted to agriculture, and thus is unavailable for other uses. In Asia, this reliance is even more significant because an estimated 35 to 40 percent of the region's cultivated land is irrigated and this area produces over 60 percent of Asia's total agricultural output.
- Aside from agriculture, another factor that influences the state of water security in a particular country is its degree of industrialization. Industries account for roughly 25% of the world's water use and that number is much

higher in industrial countries (as high as 50-80%). In developing countries, the percentage tends to hover around 10-30 percent.

- Environmental factors (such as pollution or climate change) can also influence water security for a particular nation or region. In many parts of Asia, pollution is a major culprit behind the dwindling availability of freshwater. In South Korea, for example, more than 300 factories along the Naktong River illegally discharged toxic wastes directly into the river.
- The specific impact of freshwater on intra-state security is far more complex and less easily ascertained. e.g. Kaveri water issue in between the states of Karnataka and Tamilnadu.
- Freshwater resources are likely to spark conflict international relations. e.g. Tista water sharing issue between India and Bangladesh.

Access to clean, safe, freshwater is recognized universally as one of the most basic and vital needs of humanity. Yet with the world population projected to increase to nearly 9 billion over the next few decades, bringing with it the associated need for greater food production and industry, it stands to reason that shortages of clean freshwater can potentially have broad and far-reaching security implications. Hence, to conserve fresh water resources following steps needs to be taken:

- At the individual level the 3R formula of REDUCE, REUSE, RECYCLE needs to be applied.
- Also the basic individual level steps such as Check taps for leaks, Taking shorter showers, Turning off the water while brushing teeth needs to be taken up so that fresh water can be saved.
- At the government level too minimizing the pollution of the rivers, lakes and time to time precaution by cleaning them will in turn help to add fresh water availability. Such as Namami Gange programme.
- At the international level, various water cooperation initiatives will help to conserve freshwater resources.

Conclusion:

Clean freshwater is not only essential for human life, but also for economic development and agriculture in the Asian continental region. Emerging water scarcity and water security issues are posing a big challenge to the conservation of freshwater resources. Hence, as the impact of freshwater scarcity varies as per variation in distribution of fresh water resources in Asia the collaborative approach is essential to assure the conservation of freshwater resource.

12. Ocean beds are huge repositories of critical resources. Can you explain the distribution of such resources?

Demand of the question:

It expects students to clarify with relevant facts how Ocean beds are huge repositories of critical resources. It also expects to present the scenario of distribution of such resources.

Introduction:

Oceans cover 70 percent of Earth's surface, host a vast variety of geological processes responsible for the formation and concentration of mineral resources, and are the ultimate repository of many materials eroded or dissolved from the land surface. Hence, oceans contain vast quantities of materials that presently serve as major resources for humans.

Body:

Countries around the world need metals and minerals to satisfy burgeoning demands for technology and electronics. The ocean beds contains critical energy sources (petroleum and gas) and raw materials (sand and gravel, phosphorite, corals and other biogenic carbonates, heavy metal ores) which can fulfil this demand.

- Direct extraction of resources is limited to salt; magnesium; placer gold, tin, titanium, and diamonds; and fresh water.
- Ferromanganese crusts, manganese nodules, phosphorites, and hydrothermal vent deposits, which occur in many deep ocean settings from the Arctic to the Antarctic, could be important sources of these metals and minerals.
- Salt, or sodium chloride, occurs in sea water at a concentration of about 3 percent and hence constitutes more than 80 percent of the dissolved chemical elements in sea water.
- Potassium occurs in vast quantities in sea water, but its average concentration of about 1,300 parts per million (or 0.13 percent) is generally too low to permit direct economic extraction.
- Magnesium, dissolved in sea water at a concentration of about 1,000 parts per million, is the only metal directly extracted from sea water. Presently, approximately 60 percent of the magnesium metal and many of the magnesium salts produced in the United States are extracted from sea water.
- The ocean basins constitute the ultimate depositional site of sediments eroded from the land, and beaches represent the largest residual deposits of sand. Although beaches and near-shore sediments are locally extracted for use in construction, they are generally considered too valuable as recreational areas to permit removal for construction purposes.
- Limestones (rocks composed of calcium carbonate) are forming extensively in the tropical to semitropical oceans of the world today as the result of precipitation by biological organisms ranging from mollusks to corals and plants. There is little exploitation of the modern limestones as they are forming in the oceans. However, the continents and tropical islands contain vast sequences of limestone's that are extensively mined; these limestone's commonly are interspersed with dolomites that formed through digenetic alteration of limestone.
- The deep ocean floor contains extremely large quantities of nodules ranging from centimetres to decimetres in diameter (that is, from less than an inch to several inches). Although commonly called manganese nodules, they

generally contain more iron than manganese, but do constitute the largest known resource of manganese.

- Complex organic and inorganic processes constantly precipitate phosphate-rich crusts and granules in shallow marine environments. These are the analogs (comparative equivalents) of the onshore deposits being mined in several parts of the world, and represent future potential reserves if land-based deposits become exhausted.
- Submarine investigations of oceanic rift zones have revealed that rich deposits of zinc and copper, with associated lead, silver, and gold, are forming at the sites of hot hydrothermal emanations commonly called black smokers. These metal-rich deposits, ranging from chimneyto pancake-like, form where deeply circulating sea water has dissolved metals from the underlying rocks and issue out onto the cold seafloor along major fractures.
- The world's oceans, with a total volume of more than 500 million cubic kilometres, hold more than 97 percent of all the water on Earth. However, the 3.5-percent salt content of this water makes it unusable for most human needs.

Life on the ocean beds moves at a glacial pace. Sediment accumulates at a rate of 1 millimetre every millennium.

- With such a slow rate of growth, areas disturbed by deep-sea mining would be unlikely to recover on a reasonable timescale.
- There could be clogging of filter feeding structures of, for example, gelatinous organisms in the water column, and burial of organisms on the sediment. There could also be some metals that get into the water column, so there are concerns about toxicology.
- It is also likely possible that the extracting resources on large scale from the ocean beds may result in the disturbance in the water cycle. In turn affecting the climate of the Earth.
- Species such as whales, tuna and sharks could be affected by noise, vibrations and light pollution caused by mining equipment and surface vessels, as well as potential leaks and spills of fuel and toxic products.

A better understanding of the deep sea is necessary to guide mitigation strategies and proper enforcement of regulations in order to limit the environmental impacts of mining activities.

- Comprehensive baseline studies are needed to understand what species live in the deep sea, how they live, and how they could be affected by mining activities. More funds are needed for training and educational programmes focused on improving our understanding of the deep sea.
- High-quality environmental assessments are needed to assess the full range, extent and duration of environmental damage from deep-sea mining operations.
- The repair, recycling and reuse of products should be encouraged to help reduce the demand for raw materials from the deep sea.
- The ISA is operating with the dual mandate of promoting the development of deep-sea minerals whilst ensuring that this development is not harmful to

the environment. This challenging and conflicting mandate will require improved oversight by the international community – including government representatives and the general public – to ensure that marine life is adequately protected.

Conclusion:

Here, we have seen that Ocean beds contain vast amount of critical resources which appear useful for the humans, but at the same time their over-exploitation is placing a negative impact on the oceanic life cycle and life in the oceanic region. Hence, it becomes imperative to conserve the oceanic critical resources while ensuring their sustainability.

13. Why should even the most dreaded criminals be given the opportunity of a fair trial? Substantiate your views.

Demand of the question:

It expects students to express their views on the issue of Right to fair trial to most dreaded criminals. It also expects the substantiation of views by the student.

Introduction:

A trial which is observed by trial judge without being partial is a fair trial. Various rights associated with a fair trial are explicitly proclaimed in Article 10 of the Universal Declaration of Human Rights, as well as numerous other constitutions and declarations throughout the world.

Body:

The right to fair trial to most dreaded criminals becomes a debatable issue when the heinous crimes against humanity are conducted by the most dreaded criminals. For instance, Dawood Ibrahim had graduated to extortion, money laundering, gold smuggling, illegal arms trade and drug trafficking having formed the dreaded D-Company.

Logic behind fair trial to most dreaded criminals:

- Fair trials are the only way to prevent miscarriages of justice and are an essential part of a just society.
- Every person accused of a crime should have their guilt or innocence determined by a fair and effective legal process.
- It's not just about protecting suspects and defendants. It also makes societies safer and stronger.
- Without fair trials, victims can have no confidence that justice will be done. Without fair trials, trust in government and the rule of law collapses.
- The right to fair trial is not new; it has long been recognised by the international community as a basic human right. Despite this, it's a right that is being abused in countries across the globe with devastating human and social consequences.

- The Universal Declaration of Human Rights (UDHR) key provision in Article 10 states that, "Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him."
- In India, the right against self-incrimination is incorporated in clause (3) of article 20 of the Constitution. Further, after Maneka Gandhi V Union Of India, (1978) case, Article 21 of the Constitution of India requires a fair, just and equitable procedure to be followed in criminal cases.

Despite the importance of fair trials being recognised by the international community, this basic human right is being abused day-in-day-out in countries across the globe.

- The mood and temper of the public in regard to the treatment of crime and criminals is of prime most concern in any country. e.g. Public sentiments were high and against the criminals in the Disha murder case of Hyderabad.
- Sometimes in the society when the situation goes out of hands, "Culture of control through power" comes in to picture. Hence, to contain this culture the judiciary every time can't work in their full capacity. e.g. Controversies regarding the encounters of gangsters in Mumbai.
- Blood lust has become the norm in preference to the lengthy and dull due process of law, delays in trials i.e. Absence of Instant justice through due process of law. e.g. The father of the Unnao rape victim has demanded “Hyderabad-like justice”.
- Many a time these killings are fake and are so orchestrated that it is difficult to conclusively prove them wrong. The deaths through encounters is a matter of concern, as it bypasses the law and doesn't follows the supreme law of country i.e. Constitution of India.

Our legal system does not permit the system to act without giving a right to fair trial. It ensures that impartiality is observed while granting justice to the victim, it also ensures that innocent person doesn't gets punished for the crimes which she/he didn't commit.

Conclusion:

The Right to Fair Trial is recognised internationally as a fundamental human right and countries are required to respect it. Different countries have developed different ways of doing this, but regardless of how a particular legal system operates, the principle of equal right to fair trial is core to all fair justice systems.

14. Should public servants be given extra salaries for the additional hours of duty being rendered at the time of COVID-19? Share your views.

Demand of the question:

It expects students to put forward their views whether public servants be given extra salaries for their additional hours of duty being rendered at the time of COVID-19.

Introduction:

COVID-19 pandemic has altered the set world order and forced almost everyone to change their way of life. However, for many of the people COVID-19 not just forced them to change their occupational approach but it increased their amount of work; resulted in increased work hours, more risk of life while handling the job, increased amount of stress etc.

Body:

Public servants & Health professionals are the more risk exposed persons during the COVID-19 pandemic. As the amount of work load increased some sections of society argued to compensate them by giving extra salaries, while some opposed to it.

Extra salaries to Publics servants :

- While risking their own life and their families lives, public servants are the frontline professionals who are striving hard to contain the spread and neutralize the effect of COVID-19.
- They are the ones who are dealing with the unprecedented situation, and trying to find a way out through this threat.
- Also, as we have noticed that their working hours are increased but nothing has been said about their salaries or extra allowances. Hence, it unjustifiable that somebody like public servants are working more and getting paid less for their extra hours of work.
- Overburdened public servants workforce is facing enormous amount of stress and sometimes it has also faced the wrath of public anger due to spread of misinformation in the society. For instance, In Maharashtra Police personnel and Health officials had to face stone pelting situation when they went for a check up drive in a village.
- At the same time they are also dealing with the lack of infrastructural problems and trying to find a way out through innovative solutions. e.g. Public servants in some of the districts have came up with new ideas to bring back the daily life of citizens such as odd even scheme to start the market, creating innovative advertisements etc.
- Hard Work & Commitment: To accomplish and outclass in any task an IAS Officer should be a hard worker and committed to his/her duty. Which can be seen from the exemplary service shown by top Odisha cadre IAS officer and state health secretary, Nikunja Dhal who returned to duty within 24 hours of his father's death. It emphasise his commitment to duty.
- In this COVID-19 Pandemic situation where the administrative machineries and health infrastructure are overburdened by the work, District collectors and Health officers are showing their decisive & resilient approach.
- A major chunk of the population of the country is currently practising isolation and is working from home, or not working at all. During such a time, IAS officer and Greater Visakhapatnam Municipal Corporation Commissioner (GVMC) G Srijana, returned to work just 22 days after giving birth to a child, cutting short her maternity break. This act of dedication by IAS officer G Srijana gives a lesson by showing the importance of handling such huge responsibility.

- Many of the public servants are failing prey to psychological ailments following the traumatic stress and it has raised their safety issue where they also have to maintain their familial relations.

Hence, we can say that Public servants are not just working for extra hours but they are also showing exemplary courage while doing their duty. Despite their courageous work, some of the societies strata is against the extra salaries for the additional hours of duty.

- It is the prime most argument that they are doing their duty and nothing more than that, as many of the private sector personnel work extra hours and don't get paid for it.
- It is a general perception developed in the society that every public servant is corrupt and is wealthy enough to sustain in this situation.
- Current economic state of the country is weak, and in this pandemic like situation if we pay more to them, it will have negative impact on the economic condition of the government.
- In the crisis like moment one better practise is observed, where Kerala and Maharashtra governments have cut their ministers and public servants salaries to divert the saved money to invest in building critical infrastructure. If this approach is used in Kerala and Maharashtra then why can't it be adapted all over the country.

Currently in Delhi-NCR over a quarter of the populations is affected by COVID-19, it shows the grim reality of the situation where out of ~2.1 crores of population nearly 50 lakhs showed antibodies presence. This shows the sheer scale of the pandemic. Our public servants are handling this level of critical situation hence, they do really deserve to be paid extra for their extra hours of work during COVID-19.
At the same time some innovative approaches also needs to be used to help the public servants.

- An NGO in Nagpur organised an online talent presentation show for Police personnel to reduce their stress.
- Recently, a school going girl from Maharashtra has written a letter of appreciation to the police personnel for their service. This small act of gratitude has helped to boost the morale of the police personnel.

Conclusion:
As we all know that COVID-19 has put different challenges in front of the world, where public servants are striving hard to tackle all hands on decks. An act of giving extra salary will not just help to encourage them to do better work but also it will help to end this COVID-19 pandemic as early as possible.

15. How do the terms integrity, impartiality, non-partisanship and objectivity differ from each other? Explain with the help of suitable examples.

Demand of the question:

It expects students to differentiate between the foundational values of civil services i.e. the terms as integrity, impartiality, non-partisanship and objectivity with the relative examples.

Introduction:

Civil/public service values are those values which are created and sustained by the government on behalf of the public. These are the principles on which government and policies should be based on. Adherence to foundational values such as integrity, impartiality, objectivity ,and non-partisanship serve as guiding principles for civil servants in the discharge of public service duties.

Body:

Integrity:

- Integrity means adopting similar standards or moral principles in similar situations across time and interested parties.
- It differs from other foundational values of civil services, as it means to be honest and consistent in thoughts, speech and action.
- It is a quality of eliminating the gap between 'what we think, what we say, and what we do.'
- It means doing the right thing even when nobody is watching.
- A simple example of integrity can be cited of, Going back to a store and pay for something that we forgot to pay for.

Impartiality:

- Impartiality means that, regardless of a public servants personal beliefs and preferences, and personal relationships with other servants or with members of the community; he or she must impartially serve the government of the day and treat members of the public and other public servants fairly and impartially.
- Impartiality implies tolerance and restraint, particularly in dealing with political or religious convictions.
- Impartiality differs from other foundational values of civil services by ensuring equality without any bias and prejudices in the general. Impartiality denotes that all the responsibilities of a person are carried out in a fair and just manner. It is a commitment to equality and diversity.
- An example of impartiality is, the nature of a judge in a court case.

Non-partisanship:

- Non-partisanship ensures a neutral approach in politics and a solid commitment to the government.
- A non-partisan civil service is also responsible to the Constitution of the land to which they have taken an oath of loyalty.
- Non-partisanship infers that the officer has to do her/his task without any fear of, or favour to any political party.

- Non-partisanship strengthens the democratic procedures and institutions along with maintaining the integrity of the service.
- For example, Mainstream news media is viewed as Autonomous and independent media in the society. Any effort by an administrator to vitiate this autonomy in favour of any political party would wreak havoc on the system.

Objectivity:

- Objectivity means the state or quality of being true and keeping aside one's emotions, biases, prejudices. Objectivity is mind independent and object specific.
- In public life, it means giving equal treatment to people in equal situation irrespective of any other factor i.e. being fair.
- Objectivity differs from other foundational values of civil services as it allows civil servants to take decision on the merits of the case and take due account of expert advice. For example District collector in making appointments needs to give priority to merit rather than other factors like the caste or background of the candidate.

These foundational values ensure an effective civil service which functions honestly, impartially and efficiently. These values empower the administrator to fill the gaps of trust deficit between the citizens and the Government. Despite their different traits the foundational values are the basic requisite for the better functioning of the administrative system.

Conclusion:

These foundational values provide lawfulness to the behaviour of an administrator and make it more effective. Hence, The civil servants have to abide by a common set of values which caters to larger interests of society at large and to achieve social, political and economic justice.