26-05-2013 UPSC CIVIL SERVICES PRELIMS PAPER-1&2 DETAILED SOLUTION / CUT-OFF

IAS – 2013 PAPER – 1 (GS)

There is NO SEPARATE PAPER WISE CUT-OFF in UPSC-Preliminary exam. It combines marks scored in both papers and from that combined score, candidates are selected for mains exam.

OFFICIAL CUT-OFF MARKS OF PRELIMS 2012 AS DISCLOSED BY UPSC

MARKS OF LAST RECOMMENDED CANDIDATE						
GENERAL	OBC	SC	ST	PH-1	PH-2	PH-3
209	190	185	181	160	164	111

EXPECTED CUT-OFF MARKS OF PRELIMS 2013

GENERAL	OBC	SC	ST	PH-1	PH-2	PH-3
215 ± 4	194 ± 4	190 ± 4	184 ± 4	165±4	169±4	115±4

IAS – 2013 PAPER – 1 (GS)

1) Under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of forest Rights) Act, 2006, who shall be the authority to initiate the process for determining the nature and extent of individual or community forest rights or both?
A) State forest Department
B) District Collector / Deputy Commissioner
C) Tashidar / Block Development Officier/ Mandal Revenue Officer.
D) Gram Sabha.

THE SCHEDULED TRIBES AND OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHTS) ACT, 2006

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 is a result of the protracted struggle by the marginal and tribal communities of our country to assert their rights over the forestland over which they were traditionally dependent. This Act is crucial to the rights of millions of tribals and other forest dwellers in different parts of our country as it provides for the restitution of deprived forest rights across India, including both individual rights to cultivated land in forestland and community rights over common property resources. The notification of Rules for the implementation of the Forest Rights Act, 2006 on 1st Jan 2008, has finally paved the way to undo the 'historic injustice' done to the tribals and other forest dwellers.

The livelihood of perhaps 100 million poorest of the poor (The Indian Forest Rights Act 2006: Communing Enclosures) stands to improve if implementation can succeed. The Act is significant as it provides scope and historic opportunity of integrating conservation and livelihood rights of the people.

SIGNIFICANCE OF THE ACT

For the first time Forest Rights Act recognises and secures

Community Rights or rights over common property resources of the communities in addition to their individual rights

Rights in and over disputed land Rights of settlement and conversion of all forest villages, old habitation, un-surveyed villages and other villages in forests into revenue villages

Right to protect, regenerate or conserve or manage any community forest resource which the communities have been traditionally protecting and conserving for sustainable use.

Right to intellectual property and traditional knowledge related to biodiversity and cultural diversity

Rights of displaced communities

Rights over developmental activities

2) Improper handling and storage of cereal grains and oilseeds result in the production of toxins known as aflatoxins which are not generally destroyed by normal cooking process. Aflatoxins are produced by
A) Bacteria B) Protozoa **C) Moulds** D) Viruses

Aflatoxins are naturally occurring mycotoxins that are produced by many species of Aspergillus, a fungus, the most notable ones being Aspergillus flavus and Aspergillus parasiticus. Their name is derived from the early work that discovered Aspergillus Flavus toxins. Aflatoxins are toxic and among the most carcinogenic substances known
Aflatoxin-producing members of Aspergillus are common and widespread in nature. They can colonize and contaminate grain before harvest or during storage. Host crops are particularly susceptible to infection by Aspergillus following prolonged exposure to a high-humidity environment, or damage from stressful conditions such as drought, a condition that lowers the barrier to entry.
The native habitat of Aspergillus is in soil, decaying vegetation, hay, and grains undergoing microbiological deterioration, and it invades all types of organic substrates whenever conditions are favorable for its growth. Favorable conditions include high moisture content (at least 7%) and high temperature.
The toxin can also be found in the milk of animals that are fed contaminated feed.
International sources of commercial peanut butter, cooking oils (i.e. olive oil, etc.), and cosmetics have been identified as contaminated with aflatoxin.

3) "Economics Justice" as one of the objectives of the Indian constitution has been provided in.
A) The preamble and the fundamental Rights
B) The preamble and the directive pricinciples of state policy.
C) The fundamental rights and the directive principles of state policy.
D) None of the above.

4) Due to improper / indiscriminate disposal of old and used computers or their parts, which of the following are released into the environment as e – waste?
1) Beryllium 2) Candmiun 3) Chromium
4) Heptachlor 5) Mercury 6) Lead
7) Plutonium
Select the correct answer using the codes given below:
A) 1,3,4,6 and 7 only **B) 1,2,3,5 and 6 only**
C) 2,4,5 and 7 only D) 1,2,3,4,5,6 and 7
"Electronic waste" may be defined as discarded computers, office electronic equipment, entertainment device electronics, mobile phones, television sets and refrigerators. This definition includes used electronics which are destined for reuse, resale, salvage, recycling, or disposal.
Cathode ray tubes (CRTs) are considered one of the hardest types to recycle.
Electronic waste substances
Some computer components can be reused in assembling new computer products, while others are reduced to metals that can be reused in applications as varied as construction, flatware, and jewelry.
Substances found in large quantities include epoxy resins, fiberglass, PCBs, PVC (polyvinyl chlorides), thermosetting plastics, lead, tin, copper, silicon, beryllium, carbon, iron and aluminium.
Elements found in small amounts include cadmium, mercury, and thallium.
Elements found in trace amounts include americium, antimony, arsenic, barium, bismuth, boron, cobalt, europium, gallium, germanium, gold, indium, lithium, manganese, nickel, niobium, palladium, platinum, rhodium, ruthenium, selenium, silver, tantalum, terbium, thorium, titanium, vanadium, and yttrium.
Almost all electronics contain lead and tin (as solder) and copper (as wire and printed circuit board tracks), though the use of lead-free solder is now spreading rapidly. The following are ordinary applications:
Hazardous
Americium:the radioactive source in smoke alarms. It is known to be carcinogenic.
Mercury: found in fluorescent tubes (numerous applications), tilt switches (mechanical doorbells, thermostats), and flat screen monitors. Health effects include sensory impairment, dermatitis, memory loss, and muscle weakness. Exposure in-utero causes fetal deficits in motor function, attention and verbal domains Environmental effects in animals include death, reduced fertility, slower growth and development.
Sulphur: found in lead-acid batteries. Health effects include liver damage, kidney damage, heart damage, eye and throat irritation. When released into the environment, it can create sulphuric acid.
BFRs: Used as flame retardants in plastics in most electronics. Includes PBBs, PBDE, DecaBDE, OctaBDE, PentaBDE. Health effects include impaired development of the nervous system, thyroid problems, liver problems. Environmental effects: similar effects as in animals as humans. PBBs were banned from 1973 to 1977 on. PCBs were banned during the 1980s.
Cadmium: Found in light-sensitive resistors, corrosion-resistant alloys for marine and aviation environments, and nickel-cadmium batteries. The most common form of cadmium is found in Nickel-cadmium rechargeable batteries. These batteries tend to contain between 6 and 18% cadmium. The sale of Nickel-Cadmium batteries has been banned in the European Union except for medical use. When not properly recycled it can leach into the soil, harming microorganisms and disrupting the soil ecosystem. Exposure is caused by proximity to hazardous waste sites and factories and workers in the metal refining industry. The inhalation of cadmium can cause severe damage to the lungs and is also known to cause kidney damage. Cadmium is also associated with deficits in cognition, learning, behavior, and neuromotor skills in children
Lead: solder, CRT monitor glass, lead-acid batteries, some formulations of PVC. A typical 15-inch cathode ray tube may contain 1.5 pounds of lead, but other

CRTs have been estimated as having up to 8 pounds of lead. Adverse effects of lead exposure include impaired cognitive function, behavioral disturbances, attention deficits, hyperactivity, conduct problems and lower IQ

Beryllium oxide: filler in some thermal interface materials such as thermal grease used on heatsinks for CPUs and power transistors, magnetrons, X-ray-transparent ceramic windows, heat transfer fins in vacuum tubes, and gas lasers.

Perfluorooctanoic acid (PFOA): found in Non-stick cookware (PTFE), used as an antistatic additive in industrial applications, and found in electronics. PFOAs are formed synthetically through environmental degradation and, in mice, after oral uptake. Studies in mice have found the following health effects: Hepatotoxicity, developmental toxicity, immunotoxicity, hormonal effects and carcinogenic effects. Studies have found increased maternal PFOA levels to be associated with an increased risk of spontaneous abortion (miscarriage) and stillbirth. Increased maternal levels of PFOA are also associated with decreases in mean gestational age (preterm birth), mean birth weight (low birth weight), mean birth length (small for gestational age), and mean APGAR score.

Hexavalent Chromium: hexavalent chromium is a known carcinogen after occupational inhalation exposure

5) Acid rain is caused by the pollution of environment by

A) Carbon dioxide and nitrogen

B) Carbon monoxide and carbon dioxide

C) Ozone and carbon dioxide

D) Nitrous oxide and sulphur dioxide

Acid rain is rain consisting of water droplets that are unusually acidic because of atmospheric pollution - most notably the excessive amounts of sulphur and nitrogen released by cars and industrial processes.

Acidity itself is determined based on the pH level of the water droplets. PH is the scale measuring the amount of acid in the water and liquid. The pH scale ranges from 0 to 14 with lower pH being more acidic while a high pH is alkaline; seven is neutral. Normal rain water is slightly acidic and has a pH range of 5.3-6.0. Acid deposition is anything below that scale. It is also important to note that the pH scale is logarithmic and each whole number on the scale represents a 10-fold change.

Causes and History of Acid Rain

Acid deposition can occur via natural sources like volcanoes but it is mainly caused by the release of **sulfur dioxide and nitrogen oxide** during fossil fuel combustion. When these gases are discharged into the atmosphere they react with the water, oxygen, and other gases already present there to form **sulfuric acid, ammonium nitrate, and nitric acid.** These acids then disperse over large areas because of wind patterns and fall back to the ground as acid rain or other forms of precipitation.

The gases responsible for acid deposition are normally a byproduct of electric power generation and the burning of coal. As such, it began entering the atmosphere in large amounts during the Industrial Revolution and was first discovered by a Scottish chemist, **Robert Angus Smith, in 1852**. In that year, he discovered the relationship between acid rain and atmospheric pollution in Manchester, England.

Although it was discovered in the 1800s, acid deposition did not gain significant public attention until the 1960s and the **term acid rain was coined in 1972.** Public attention further increased in the 1970s when the New York Times published reports about problems occurring in the Hubbard Brook Experimental Forest in New Hampshire.

6) With reference to food chains in ecosystems consider the following statements:

1) A food chain illustrates the order in which a chain of organisms feed upon each other.

2) Food chains are found within the populations of a species.

3) A food chain illustrates the numbers of each organism which are eaten by others.

Which of the statements given above is / are correct?

A) 1 only B) 1 and 2 only C)1,2 and 3 D) None

A food chain is a linear sequence of links in a food web starting from a species that eats no other species in the web and ends at a species that is eaten by no other species in the web.

Food chains were first introduced by the African-Arab scientist and philosopher Al-Jahiz in the 9th century and later popularized in a book published in 1927 by Charles Elton, which also introduced the food web concept

Food chain vary in length from three to six or more levels. A food chain consisting of a flower, a frog, a snake and an owl consists of four levels; whereas a food chain consisting of grass, a grasshopper, a rat, a snake and finally a hawk consists of five levels. Producers, such as plants, are organisms that utilize solar energy or heat energy to synthesise starch. All food chains must start with a producer. Consumers are organisms that eat other organisms. All organisms in a food chain, except the first organism, are consumers.

7) Consider the following pairs:

National park		River flowing through the Park
1) Corbett National Park	:	Ganga
2) Kaziranga National Park	:	Manas
3) Silent Valley National Park	:	Kaveri

Which of the above pairs is / are correctly matched?

A) 1 and 2 B) 3 only C) 1 and 3 **D) None**

Silent Valley National Park is located in the Nilgiri Hills, Palakkad District in Kerala, South India.

Kaziranga National Park is a national park in the Golaghat and Nagaon districts of the state of Assam, India. A World Heritage Site, the park hosts two-thirds of the world's Great One-horned Rhinoceroses. Kaziranga boasts the highest density of tigers among

protected areas in the world and was declared a Tiger Reserve in 2006.

Jim Corbett National Park is the oldest national park in India, named after the hunter-turned-conservationist Jim Corbett who played a key role in its establishment—was established in 1936 as Hailey National Park. Situated in Nainital district of Uttarakhand the park acts as a protected area for the endangered Bengal tiger of India, the secure survival of which is the main objective of Project Tiger, an Indian wildlife protection initiative

8) Consider the following organisms:
1) Agaricus 2) Nostoc 3) Spirogyra
Which of the above is / are used as biofertilizer / biofertilizers?
A) 1 and 2 **B) 2 only** C) 2 and 3 D) 3 only

Nostoc is a genus of cyanobacteria found in a variety of environmental niches that forms colonies composed of filaments of moniliform cells in a gelatinous sheath.

Spirogyra is a genus of filamentous green algae of the order Zygnematales, named for the helical or spiral arrangement of the chloroplasts that is diagnostic of the genus. It is commonly found in freshwater areas

Agaricus is a genus of mushrooms containing both edible and poisonous species, with possibly over 300 members worldwide. The genus includes the common ("button") mushroom (Agaricus bisporus) and the field mushroom (Agaricus campestris), the dominant cultivated mushrooms of the West.

Members of Agaricus are characterized by having a fleshy cap or pileus, from the underside of which grow a number of radiating plates or gills on which are produced the naked spores.

9) Which of the following adds / add nitrogen to the soil?
1) Excretion of urea by animals
2) Burning of coal by man
3) Death of vegetation
Select the correct answer using the codes given below?
A) 1 only B) 2 and 3 only **C) 1 and 3 only** D) 1,2 and 3

10) In which of the following states is lion- tailed macaque found in its natural habitat?
1) Tamil nadu 2) Kerala 3) Karnataka
4) Andhra Pradesh
Select the correct answer using the codes given below.
A) 1,2, and 3 only B) 2 only
C) 1,2 and 4 only D) 1,2,3 and 4

11) Some Buddhist rock – cut caves are called chaityas, while the others are called viharas. What is the difference between the two?
A) Vihara is a place of worship while chaitya is the dwelling place of the monks.
B) Chaitya is a place of worship, while Vihara is dwelling place of the monks
C) Chaitya is the stupa at the far end of the cave, while Vihara is the hall axial to it
D) There is no material difference between the two

A chaitya is a Buddhist or Jain shrine including a stupa. In modern texts on Indian architecture, the term chaitya-griha is often used to denote an assembly or prayer hall that houses a stupa.

Vihara is the Sanskrit and Pali term for a Buddhist monastery. It originally meant "a secluded place in which to walk", and referred to "dwellings" or "refuges" used by wandering monks during the rainy season.

12) Which one of the following describes best the concept of Nirvana in Buddhism?
A) The extinction of the flame of desire
B) The complete annihilation of self
C) A state of blisss and rest
D) A mental stage beyond all comprehension

Nirvāṇa is an ancient Sanskrit term used in Indian religions to describe the profound peace of mind that is acquired with moksha (liberation). In shramanic thought, it is the state of being free from suffering.

The word literally means "blown out" (as in a candle) and refers, in the Buddhist context, to the imperturbable stillness of mind after the fires of desire, aversion, and delusion have been finally extinguished.

13) According to the constitutiuon of India, which of the following are fundamental for the governance of the country?
A) Fundamental Rights
B)Fundamental Duties
C) Directive principles of state policy
D) Fundamental rights and Fundamental Rights and Fundamental Duties.

14) The people of india agitated against the arrival of simon commission because
A) Indians never wanted the review of the working of the Act 1919.
B) Simon commission recommended the abolition of Dyarachy (Diarchy) in the provinces
C) There was no Indian member in the Simon commission
D) The Simon commission suggested the partition of the country.

In November, 1927 the British government appointed the Simon Commission. It consisted of Englishmen without a single Indian representative. In the Congress session it was decided to boycott the Simon commission.

The commission arrived in India in February 1928 and was met, with a country wide hartal (strike) wherever the commission went. Peaceful demonstrators were beaten up by the police. Lala Lajpat Rai was assaulted at Lahore and soon after died. Govind Ballabh Pant received a heavy blow which disabled him for life.

In March 1929, 31 labour leaders were arrested on the charge of conspiracy. The trial which lasted four years is known as the Meerut Conspiracy Case. The nationalist leaders provided legal defence to the accused. The British government in 1929 issued the public safety ordinance to remove from India persons it considered British and foreign communist agents. The government also enacted a law to curb trade union activities.

After the withdrawal of the Non-Cooperation movement, there had been a revival of revolutionary

activities. Four revolutionaries, including Ram Prasad Bismal and Ashfaqualla, members of the Hindustan Republican Association had been hanged after their trial under the Kakori Conspiracy Case.

In 1928, Chandra Shekhar Azad, Bhagat Singh, Sukh Dev and others had founded the Hindustan Republication Socialist Association. On 8 April 1929, Bhagat Singh and Batukeshwar Dutt threw a bomb in the Central Legislative Assembly. They raised slogans of 'Long Live the Revolution.' Bhagat Singh and Batukeshwar Dutt Surrendered.

All the prominent members were arrested and charged with the murder of the Superintendent of Police of Lahore also. Bhagat Singh, Raj Guru and Sukh Dev were later, sentenced to death.

15) Quit India Movement was launched in response to

A) Cabinet Mission Plan **B) Cripps Proposals**

C) Simon Commission Report D) Wavell Plan

In August 1942, Gandhiji launched the Quit India Movement ("Bharat Chhodo Andolan"). A resolution was passed on 8 August 1942 in Bombay by the All India Congress Committee, declaring its demand for an immediate end of British rule. The Congress decided to organize a mass struggle on non-violent lines on the widest possible scale. Gandhiji's slogan of 'Do or Die' ('Karo ya Maro') inspired the nation. Every man, women and child began dreaming of a free India.

16) The balance of payments of a country is a systematic record of

A) All import and export transaction of a country during a given period of time normally a year

B) Goods exported from a country during a year

C) Economic transaction between the governments of one country to another.

D) Capital movements from one country to another.

A record of all transactions made between one particular country and all other countries during a specified period of time. BOP compares the dollar difference of the amount of exports and imports, including all financial exports and imports. A negative balance of payments means that more money is flowing out of the country than coming in, and vice versa.

BOP: The two principal parts of the BOP accounts are the **current account and the capital account.** The current account shows the net amount a country is earning if it is in surplus, or spending if it is in deficit. It is the sum of the balance of trade (net earnings on exports minus payments for imports), factor income (earnings on foreign investments minus payments made to foreign investors) and cash transfers. It is called the current account as it covers transactions in the "here and now" - those that don't give rise to future claims.

The Capital Account records the net change in ownership of foreign assets. It includes the reserve account (the foreign exchange market operations of a nation's central bank), along with loans and investments between the country and the rest of world (but not the future regular repayments/dividends that the loans and investments yield; those are earnings and will be recorded in the current account). The term "capital account" is also used in the narrower sense that excludes central bank foreign exchange market operations: Sometimes the reserve account is classified as "below the line" and so not reported as part of the capital account.

17) The Reserve Bank of India regulates the commercial banks in matters of.

1) liquidity of assets 2) branch expansion

3) merger of banks 4) winding-up of banks

Select the correct answer using the codes given below.

A) 1 and 4 only B) 2,3 and 4 only

C) 1,2 and 3 only **D) 1,2,3 and 4**

To do a business of commercial banking in India, whether it is India or Foreign, a license from RBI is required.

Opening of Branches is handled by the Branch Authorization Policy. This policy was made easier in recent times and an important provision is that:

Indian banks no longer require a license from the Reserve Bank for opening a branch at a place with population of below 50,000.

Corporate Governance:

RBI policy ensures high quality corporate governance in banks.

CRR and SLR:

These are called **Statutory Pre-emptions.** Commercial banks are required to maintain a certain portion of their Net Demand and Time Liabilities (NDTL) in the form of cash with the Reserve Bank, called Cash Reserve Ratio (CRR) and in the form of investment in unencumbered approved securities, called Statutory Liquidity Ratio (SLR).

Interest Rates:

The interest rates on most of the categories of deposits and lending transactions have been deregulated and are largely determined by banks. Reserve Bank regulates the interest rates on savings bank accounts and deposits of non-resident Indians (NRI), small loans up to rupees two lakh, export credits and a few other categories of advances.

Prudential Norms:

Prudential Norms refers to ideal / responsible norms maintained by the banks. RBI issues "Prudential Norms" to be followed by the commercial banks to strengthen the balance sheets of banks. Some of them are related to income recognition, asset classification and provisioning, capital adequacy, investments portfolio and capital market exposures. RBI has issued its guidelines under the Basel II for risk management. Apart from that, RBI issues the public disclosure norms to enforce the market disciplines. Now all banks are required to disclose in their annual reports about capital adequacy, asset quality, liquidity, earnings aspects and penalties, if any, imposed on them. Similarly, the KYC norms (Know Your Customer) Anti-Money Laundering (AML) and Combating Financing of Terrorism (CFT) guidelines are some of the major issues on which RBI keeps issuing its norms and guidelines.

Annual Onsite Inspection:

RBI undertakes annual on-site inspection of banks to assess their financial health and to evaluate their performance in terms of quality of management, capital adequacy, asset quality, earnings, liquidity position as well as internal control systems.

Based on the findings of the inspection, banks are assigned supervisory ratings based on the CAMELS rating.

OSMOS: OSMOS refers to Off Site Surveillance and Monitoring System. The RBI requires banks to submit detailed and structured information periodically under OSMOS. On the basis of OSMOS, RBI analyzes the health of the banks.

18) An increase in the Bank rate generally indicates that the

A) market rate of interest is likely to fall

B) central Bank is no longer manking loans to commercial banks.

C) Central Bank is following an easy money policy

D) Central Bank is following a tight money policy

The interest rate at which a nation's central bank lends money to domestic banks. Often these loans are very short in duration. Managing the bank rate is a preferred method by which central banks can regulate the level of economic activity. Lower bank rates can help to expand the economy, when unemployment is high, by lowering the cost of funds for borrowers. Conversely, higher bank rates help to reign in the economy, when inflation is higher than desired.

The bank rate can also refer to the interest rate which banks charge customers on loans.

19) In India, deficit financing is used for raising resources for

A) Economic deveplopment

B) Redemption of public debt

C) Adjusting the balance of payments

D) Reducing the foreign debt

India and Deficit Financing:

India resorted to deficit financing, then largely financed through Reserve Bank's books either by printing more money or use of its foreign exchange reserves, right from the early years of planned economic development. However, our planners did not factor in the impact of deficit financing on inflation. But with large foreign exchange reserves, they were confident of the government's ability to manage the supply-side of the economy.

For much of the 1950s, the Bank was part of this consensus. Although the impact of deficit financing on prices had aroused concern already in 1951-52 , price stability did not return as a major cause of worry at the Bank until the mid-50 s. Besides, the Bank recognised the need for any plan to go beyond what available resources dictated, even if some part of the additional investment had to be financed through additions to money supply.

Is deficit financing inevitable?

Deficit financing is ***neither good nor bad***. It depends upon the circumstances in which it is resorted to and the economic policy which is followed to neutralize its adverse consequences. A certain measure of deficit financing is inevitable in India under the planned economic development as one of the objectives of the planning is to step up the tempo of the economic progress beyond what it would have been in absence of planning. As far as deficit financing does not lead to inflation , there is no objection to its use. However , unfortunately, extent to which India has been practicing deficit financing has gone way beyond what could possibly have been contemplated by Lord Keynes.

Relation of Deficit Financing and Inflation:

Deficit financing may not necessarily be inflationary there are certain conditions under which deficit financing may not lead to inflation. With increase in money supply due to deficit financing prices do rise but rise in price will only be temporary for about a period. As flow of goods and services increase prices will began to fall. deficit financing is an important device for financing development plans for underdeveloped countries and accelerate their rate of economic development. But If deficit financing is not kept with in limits It may give rise to prices, distorted investment and unequal and unjust distribution of income. therefore it is essential that deficit financing is kept within limits and its impact on prices and costs are softened through various controls.

20) Which of the following characterizes / characterize the people of Indus Civilization?

1) They possessed great palaces and temples.

2) They worshipped both male and female deities.

3) They employed horse-drawn chariots in warfare.

Select the correct statements using the codes given below:

A) 1 and 2 only **B) 2 only** C) 1,2, and 3

D) None of the statements given above is correct.

FEATURES OF THE INDUS VALLEY CIVILIZATION

a) Town Planning

The ruins of Mohenjodaro provides evidence to confirm the existence of a system of planning in the city. The streets were broad and straight cutting each other at right angles. The drains were lined with bricks and manholes to facilitate regular cleaning. This speaks highly of the civilization's advanced nature.

The citadel was the main part of the city built on a raised platform. It consisted of public buildings, a bath, granaries and quarters for providing shelter to the persons propagating religion. The planning of the city brings to light the existence of an active and efficient bureaucracy to administer the activities of the city.

Around the citadel was spread the remaining part of the city where the common people dwelt and pursued their profession. Houses were well planned and was built on both sides of the street. it had flat roofs and were connected by stairs to the upper storeys. They had thick walls and windows were few. Every house

had a kitchen with a fireplace and large jars for storing grains or keeping other articles of use. The roofs of houses were flat. each house had bathrooms with a system of covered drains connected to the main drain of the street. A courtyard and a well were the special. features that brings to light the system of planning existing then.

(b) Society

Society in the Indus valley civilization is said to have comprised of three distinct social groups. One group ruled and administered the city, the other group included the merchants who were associated with trade and other business activities in the city. The third group were the labourers who worked in the city. They also included the farmers who cultivated wheat and barley as their main crops. Animals like the buffaloes, sheeps and pigs and the humped bull were bred. Fish, mutton, beef, poultry and pork consisted the food they ate. Animals like the elephant, camels and dogs were also domesticated. The discovery of a large number of clay spindles suggest the use of cotton besides woolen and linen fabrics.

Men also seemed to have worn ornaments like fillets, necklaces, finger rings and armlets. Women were fond of ornaments like earrings, bangles, bracelets, necklaces, girdles and anklets made of shell, beads, gold and silver and copper. Razors, bronze mirrors and combs made of ivory speaks of the people interest in personal upkeep. Toys like the whistle and carts besides puppets, rattles and dolls made of terracotta speaks greatly about the attitude of the people in child care. People enjoyed playing in dice and marble. Gambling was a favourite past time of the elder members in the society.

(c) Occupation

The discovery of various equipments such as axes, knives, spears and daggers made of bronze and copper suggest metal work as a major profession commonly pursued in the towns. Copper was used for making weapons and utensils besides ornaments. Spinning, weaving and pottery also formed important occupation. Pottery in red with designs painted in black resembling shapes such as interesting circles, pipal, leaves, peacocks were on it. The discovery of numerous seals made of clay with figures of animals like the tiger, rhinoceros, elephant and crocodile gives us more information of the significance of these animals in the Harappan society. These seals also have inscriptions in pictographic script.

Agriculture with domesticating animals was a major occupation. The location of granaries near river, where the civilization itself flourished was an important feature. The ornaments of these period worn by both men and women reflects the skilled craftsmanship of the people in the Harappan culture.

(d) Trade

The Indus valley people maintained commercial contacts with Egypt and Crete, Mesopotamia and the towns in the Persian Gulf. Excavations at Lothal reveals the existence of a dock supporting the activities of trade in that period. Trade also existed with Northern Afghanistan from where the Harappans bought the famous blue gemstones,' **Lapiz Lazuli'.**

(e) Religion

The clay seals discovered during excavation reveals the presence of a male god. The figure of a female god also suggest their beliefs on the female was source of creation. The seal with a male god wearing a head dress surrounded by various animals exhorts the belief in the male symbol of strength. The Indus valley people cremated their death. This idea has been established owing to the discovery of many urns containing human bones and ashes. In general it can be derived that worship of the forces of nature in its lively forms such as stones, strong animals was the religion they followed. This must have been the principles upon which the present day Hinduism has prescribed as its principles.

21) Which of the following diseases can be transmitted from one person to another through tattooing?
1) Chikungunya 2) Hepatitis B 3) HIV – AIDS
Select the correct answer using codes given below:
A) 1 only **B) 2 and 3 only** C) 1 and 3 only D) 1,2 and 3
"Tattooing poses health risks because the process exposes blood and body fluids. Because of this a person who gets tattooed risks getting a disease or infection that is carried through blood. These blood-borne diseases include hepatitis B and C, tetanus, and HIV."
Tattoos are so vulnerable to deadly diseases because the tattooist is puncturing thousands of tiny potential disease bearing wounds with very little, if any, serious state or federal health regulations. And not only that, many of the customers receiving a tattoo are drug-users, criminals, rock artists, deviants and homosexuals who just happen to be the major carriers of the deadly blood-borne diseases such as AIDS and hepatitis.

22) Which of the following statements is /are applicable to jain doctrine?
1) The surest way of annihilating karma is to practice penance.
2) Every object, even the smallest particle has a soul.
3) karma is the bane of the soul and must be ended.
Select the correct answer using the codes given below:
A) 1 only B) 2 and 3 only C) 1 and 3 only **D) 1,2 and 3**

23) Which one of the following terms describes not only the physical space occupied by an organism but also its functional role in the community of organisms?

A) Ecotone **B) Ecological niche**

C) Habitat D) Home range

An ecotone is a transition area between two biomes. It is where two communities meet and integrate. It may be narrow or wide, and it may be local (the zone between a field and forest) or regional (the transition between forest and grassland ecosystems). An ecotone may appear on the ground as a gradual blending of the two communities across a broad area, or it may manifest itself as a sharp boundary line.

The ecological niche describes how an organism or population responds to the distribution of resources and competitors (e.g., by growing when resources are abundant, and when predators, parasites and pathogens are scarce) and how it in turn alters those same factors (e.g., limiting access to resources by other organisms, acting as a food source for predators and a consumer of prey).

Habitat is an ecological or environmental area that is inhabited by a particular species of animal, plant, or other type of organism. It is the natural environment in which an organism lives, or the physical environment that surrounds (influences and is utilized by) a species population

Home range is the area where an animal lives and travels in.

24) Photochemical smog is a resultant of the reaction among.

A) NO_2, O_3 and peroxyacetyl nitrate in the presence of sunlight.

B) CO, O_2 and peroxyacetyl nitrate in the presence of sunlight.

C) CO, O_2 and NO_2 at low temperature

D) High concentration of NO_2, O_3 and CO in the evening

Photochemical smog was first described in the 1950s. It is the chemical reaction of sunlight, nitrogen oxides and volatile organic compounds in the atmosphere, which leaves airborne particles and ground-level ozone. This noxious mixture of air pollutants can include the following:

- Aldehydes
- Nitrogen oxides, such as nitrogen dioxide
- Peroxyacyl nitrates
- Tropospheric ozone
- Volatile organic compounds

All of these chemicals are usually highly reactive and oxidizing. Photochemical smog is therefore considered to be a problem of modern industrialization. It is present in all modern cities, but it is more common in cities with sunny, warm, dry climates and a large number of motor vehicles. Because it travels with the wind, it can affect sparsely populated areas as well.

25) Consider the following minerals:

1) Calcium 2) Iron 3) sodium

Which of the minerals given above is /are required by human body for the contraction of muscles?

A) 1 only B) 2 and 3 only C) 1 and 3 only **D) 1,2 and 3**

Calcium is a mineral not only essential for bone health, but it's also required for muscular contraction. Once muscle cells receive a signal from the corresponding nerve, calcium floods into the stimulated muscle cells and binds with a protein called troponin. This moves another protein, tropomyosin, away from the binding site of myosin. Myosin is a thicker protein that bends and elongates to create muscle contraction. Calcium from dairy products is more effectively absorbed compared to calcium in foods such as spinach. The recommended daily intake of calcium for a healthy adult is 1,000 mg.

26) What will follow if a Money Bill is substantially amended by the Rajya Sabha?

A) The Lok Sabha may still proceed with the bill, accepting or not accepting the recommendations of the Rajya Sabha.

B) The lok Sabha cannot consider the Bill further

C) The lok Sabha may send the Bill to the Rajya Sabha for reconsideration

D) The president may call a joint sitting for passing the bill

A bill that deals exclusively with money matters that are mentioned in Article 110 in Constitution is called a Money Bill. These Money matters are:

(1) Imposition, abolition or alternation of any tax.

(2) The borrowing of any money or giving any guarantee by the Government of India.

(3) The custody of the Consolidated Fund of India or Contingency fund of India or deposition or withdrawal of any money from any such funds.

(4) The appropriation of the money out of the Consolidated Fund of India.

(5) Declaring any expenditure as charged on the Consolidated Fund of India.

(6) The receipt of money on the account of consolidated Fund of India or Public Account of India.

(7) Any matter that is incidental to the above matters. Appropriation – Authorize someone to withdraw and spend withdraw you withdraw and spend.

A money bill can be introduced onlyin Lok Sabha on the recommendation of the President. It is passed by a simple majority by both the Houses of Parliament. The Lok Sabha enjoys overriding legislative power in the passage of a money bill and Rajya Sabha cannot reject or approve a money bill by virtue of its own legislative power.

Any money bill shall bear the certificate of speaker that it is a money bill. The Speaker's decision in this regard is final and binding and cannot be questioned in any court of law. A money bill is transmitted to Rajya Sabha after it has been passed by Lok Sabha. The Rajya Sabha can exercise any of the following four options:

(i) It also passes the bill.
(ii) It rejects the bill outright – upon being rejected the bill is deemed to have been passed by both the Houses.
(iii) The Rajya Sabha does not pass the bill for 14 days, then on the expiry of 14th day after having received the bill it is deemed to have been passed by both the Houses.
(iv)The Rajya Sabha suggests amendments to the bill, the bill then goes back to the power House. If the Lok Sabha accepts one or more of the amendment then the bill is deemed to have been passed in that form on the other hand if Lok Sabha rejects the amendment then the bill is deemed to have been passed in its original form.
There is no deadlock between the Houses over the passage of a money bill. When a money bill is presents to the President, under the Constitution he shall declare that he give assent or withhold assent.

27) Which one of the following statements in correct?
A) In India, the same person cannot be appointed as Governor for two or more states at the same time
B)The judges of the High court of the states in India are appointed by the Governor of the state just as the judges of the supreme court are appointed by the president.
C) No procedure has been laid down in the constitution of india for the removal of a Governor from his/her post.
D) In the case of a Union Territory having a legislative setup, the chief Minister is appointed by the Lt. Governor on the basis of majority support.

28) Which one of the following pairs is correctly matched?

Geographical Feature		Region
A) Abyssinian Plateau	:	Arabia
B) Atlas Mountains	**:**	**North–Western Africa**
C) Guiana Highlands	:	South–Western Africa
D) Okavango Basin	:	Patagonia

The Atlas Mountains is a mountain range across the northwestern stretch of Africa extending about 2,500 km (1,600 mi) through Morocco, Algeria, and Tunisia. The highest peak is Toubkal, with an elevation of 4,167 metres (13,671 ft) in southwestern Morocco.
Guiana Highlands, plateau and low-mountain region of South America located north of the Amazon and south of the Orinoco River. Comprising a heavily forested plateau, they cover the southern half of Venezuela, all of the Guianas except for the low Atlantic coastal plain, the northern part of Brazil, and a portion of southeastern Colombia.
The most notable natural landmark in the highlands is Angel Falls, the world's highest waterfall (3,212 feet [979 metres], with a base of 500 feet [150 metres]), on an affluent of the Caroní River in Venezuela.
The **Okavango Basin** is an endorheic basin in southwestern Africa, which extends across portions of Angola, Botswana, Namibia and Zimbabwe.
The Okavango River is the chief stream in the basin.

29) With reference to the history of Indian rock – cut architecture, Consider the following statements:
1) The caves at Badami are the oldest surviving rock – cut caves in India.
2) The Barabar rock – cut caves were originally made for Ajivikas by Emperor Chandragupta maurya.
3) At Ellora, caves were made for different faiths.
Which of the statements given above is / are correct ?
A) 1 only B) 2 and 3 only **C)3 only** D) 1,2 and 3

30) Recombinant DNA technology (Genetic Engineering) allows genes to be transferred
1) Across differentspecies of plants
2) From animals to plants
3) From micro organisms to higher organisms
Select the correct answer using the codes given below:
A) 1 only B) 2 and 3 only C) 1 and 3 only **D) 1,2 and 3**
Recombinant DNA technology, joining together of DNA molecules from two different species that are inserted into a host organism to produce new genetic combinations that are of value to science, medicine, agriculture, and industry. Since the focus of all genetics is the gene, the fundamental goal of laboratory geneticists is to isolate, characterize, and manipulate genes. Although it is relatively easy to isolate a sample of DNA from a collection of cells, finding a specific gene within this DNA sample can be compared to finding a needle in a haystack. Consider the fact that each human cell contains approximately 2 metres (6 feet) of DNA. Therefore, a small tissue sample will contain many kilometres of DNA. However, recombinant DNA technology has made it possible to isolate one gene or any other segment of DNA, enabling researchers to determine its nucleotide sequence, study its transcripts, mutate it in highly specific ways, and reinsert the modified sequence into a living organism.

31) The Chinese traveller Yuvan chwang (Hiuen Tsang) who visited India recorded the general conditions and culture of india at that time .In this context, which of the following statements is / are correct?
1) The roads and river – routes were completely immune from robbery.
2) As regards punishment for offences, ordeals by fire, water and poison were the instruments for determining the innocence or guilty of a person
3) The tradesmen had to pay duties at ferries and barrier stations.
Select the correct answer using the codes given below:
A) 1 only **B) 2 and 3 only**
C) 1 and 3 only D) 1,2 and 3

32) Consider the following:
1) Star tortoise 2) Monitor lizard 3) Pygmy hog
4) Spider monkey
Which of the above are naturally found in india?
A) 1,2 and 3 only B) 2 and 3 only
C) 1 and 4 only D) 1,2,3 and 4

33) Which of the following can be found as pollutants in the drinking waters in some parts of india?
1) Arsenic 2) Sorbitol 3) Fluoride
4) Fermaldehyde 5) Uranium
Select the correct answer uaing the codes given below:
A) 1 and 3 only B) 2,4 and 5 only
C) 1,3 and 5 only D) 1,2,3,4 and 5

34) With reference to Indian Histroy the members of the constituent Assembly from the provinces were
A) Directly elected by the people of those provinces
B) Nominatyed by the Indian Nation copgress and the Muslim League
C) Elected by the provincial legislative assemblies
D) Selected by the Government for their expertise in constitutional matters.

The present constitution was framed by the Constituent Assembly of India setup under Cabinet Mission Plan of May 16, 1946.

- The Constituent Assembly consisted of 389 members, of which 292 were elected by the elected members of the Provincial Legislative Assemblies while 93 members were nominated by the Princely States.
- A representative from each of the four Chief Commissioners Provinces of Delhi, Ajmer-Marwad, Coorg and British Baluchistan was also added.
- Each Province and each Indian State or group of States were allotted the total number of seats proportional to their respective population roughly in die ratio of one to a million.
- The seats in each province were distributed among the three main communities – Muslim, Sikh and General, in proportion to their respective populations.
- Members of each community in the Provincial Legislative Assembly elected their own representatives by the method of proportional representation with single transferable vote.
- The method of selection in the case of representatives of Indian States was to be determined by consultation.
- But when the Muslim League decided to withdraw its members from the Constituent Assembly of India and with the creation of a separate Constituent Assembly for Pakistan on July 16, 1947, the membership of the Constituent Assembly of India was reduced to 299, out of which 229 represented the provinces and 70 were nominated by the Princely states.

35) Consider the following animals
1. Sea cow 2. Sea horse 3. Sea lion
Which of the above is I are mammal / mammals?
A)1 only **B)1 and 3 only** C)2 and 3 only D)1, 2 and 3

Seahorse is the title given to 54 species of marine fish in the genus Hippocampus

Steller's **sea cow (Hydrodamalis gigas)** was a large, herbivorous marine mammal. It was the largest member of the order Sirenia, which includes its closest living relative, the dugong (Dugong dugon), and the manatees (Trichechus spp.). Although the sea cow had formerly been abundant throughout the North Pacific, by 1741, when it was first described by Georg Wilhelm Steller, chief naturalist on an expedition led by explorer Vitus Bering, its range had been limited to a single, isolated population surrounding the uninhabited Commander Islands. Within 27 years of discovery by Europeans, the slow-moving and easily-captured Steller's sea cow was hunted to extinction.

Sea lions are pinnipeds(fin-footed mammals) characterized by external ear flaps, long foreflippers, the ability to walk on all fours, and short, thick hair. Together with the fur seals, they comprise the family Otariidae, eared seals and there are six extant and one extinct species (the Japanese sea lion) in five genera. Their range extends from the subarctic to tropical waters of the global ocean in both the Northern and Southern Hemispheres, with the notable exception of the northern Atlantic Ocean.

36) Consider the following statements
1. An amendment to the Constitution of India can be initiated by an introduction of a bill in the Lok Sabha only. .,-
2. If such an amendment seeks to make changes in the federal character of the Constitution, the amendment also requires to be ratified by the legislature of all the States of India.
Which of the statements gh.en above is/are correct?
A)1 only B)2 only C)Both 1 and 2 **D)Neither I nor 2**

The Constitution can be amended in three different ways :-
(a) Some categories of amendment like creation of new States, creation or abolition of second chamber of the States, changes in the citizenship, etc., require only a simple majority in both the Houses of the Union Parliament. In this case amendment of the Constitution is made in a flexible manner.
(b) Certain other provisions of the Constitution in order to be amended, require a majority of the total membership in each House of Parliament and a majority of not less than two-thirds of the members present and voting in each House of parliament. The bulk of the Constitution can be amended in this way.
(c) Certain categories of amendment like the Presidential powers and mode of election, the extent of the Executive and Legislative Powers of the Union or the States, the provision regarding the Supreme Court and the High Court, the representation of States in Parliament etc. require :-

- A majority of the total membership in each House of Parliament.
- A majority of not less than two-thirds of all the members present and voting in each House of Parliament, and
- Ratification by the legislatures of at least one half of the States.
- The analysis of the above three procedures of the Indian Constitution reveals that the amendment procedures strike a wise balance between rigidity and flexibility.

37) Consider the following statements
Attorney General of India can
1. Take part in the proceedings of the Lok Sabha
2. Be a member of a committee of the Lok Sabha
3. Speak in the Lok Sabha
4. Vote in the Lok Sabha
Which of the statements given above is fare correct?
A)1 only B)2 and 4 **C)1, 2 and 3** D)1 and 3 only

38) With reference to the usefulness of the by-products of sugar industry, which of the following statements Is fare correct?
I. Bagasse can be used as biomass fuel for the generation of energy.
2. Molasses can be used as one of the feedstocks for the production of SJ'flthetic chemical fertilizers.
3. Molasses can be used for the production of ethanol.
Select the correct answer using the codes given below
A) 1 only B) 2 and 3 only **C) 1 and 3 only** D) 1, 2 and 3

Bagasse is the fibrous matter that remains after sugarcane or sorghum stalks are crushed to extract their juice. It is currently used as a biofuel and in the manufacture of pulp and paper products and building materials.

Molasses is a viscous by-product of the refining of sugarcane, grapes, or sugar beets into sugar. Cane molasses is also used in the manufacture of ethyl alcohol for industry and as an ingredient in cattle feed.

39) Varia•ions in the length of daytime and nighttime from season to season are due to
A)the earth's rotation on its axis
B) the eanh's revolution round the sun in an elliptical manner
C) latitudinal position of the place
D) revolution of the earth on a tilted axis

The seasons are the result of the tilt of the Earth's axis. The Earth's axis is tilted from perpendicular to the plane of the ecliptic by 23.45°. This tilting is what gives us the four seasons of the year - spring, summer, autumn (fall) and winter. Since the axis is tilted, different parts of the globe are oriented towards the Sun at different times of the year.
Summer is warmer than winter (in each hemisphere) because the Sun's rays hit the Earth at a more direct angle during summer than during winter and also because the days are much longer than the nights during the summer. During the winter, the Sun's rays hit the Earth at an extreme angle, and the days are very short. These effects are due to the tilt of the Earth's axis.
Solstices
The solstices are days when the Sun reaches its farthest northern and southern declinations. The winter solstice occurs on December 21 or 22 and marks the beginning of winter (this is the shortest day of the year). The summer solstice occurs on June 21 and marks the beginning of summer (this is the longest day of the year). Equinoxes
Equinoxes are days in which day and night are of equal duration. The two yearly equinoxes occur when the Sun crosses the celestial equator.
The vernal equinox occurs in late March (this is the beginning of spring in the Northern Hemisphere and the beginning of fall in the Southern Hemisphere); the autumnal equinox occurs in late September (this is the beginning of fall in the Northern Hemisphere and the beginning of spring in the Southern Hemisphere).

40) The Narmada river flows to the west, while most other large perunsular rivers flow to the east. Why?
1. It occupies a linear rift valley. ...
2 . It flows between the Vindhyas and the Satpuras.
3. The land slopes to the west from Central India.
Select the correct answer using the codes given below.
A)1 only B)2 and 3 C)1 and 3 D)None

The Narmada is a river in central India and the fifth longest river in the Indian subcontinent. It is the third longest river that flows entirely within India, after the Godavari and the Krishna. It forms the traditional boundary between North India and South India and flows westwards before draining through the Gulf of Khambhat into the Arabian Sea. It is the only river in India that flows in a rift valley, flowing west between the Satpura and Vindhya ranges.

41) On the planet earth, most of the freshwater exists as ice caps and glaciers. Out of the remaining freshwater, the largest proportion
A) is found in atmosphere as moisture and clouds
B) is found in freshwater lakes and rivers
C) exists as groundwater
D) exists as soil moisture
Out of all the water on Earth, salt water in oceans, seas and saline groundwater make up about 97% of it. Only 2.5–2.75% is fresh water.

where the water is	amount of water (km^3 x 1000)	percentage (%) of total
in oceans	1 350 000	96.4
as ice* (mainly the Antarctic ice-cap)	25 000	1.8
groundwater* (underground in Earth's crust)	25 000	1.8
surface water* (rivers, lakes, etc)	200	0.014
in the atmosphere	13	0.001
in the biosphere (ie, in the bodies of living things)	1	0.001

* = fresh water * = 10% of this is fresh water

Freshwater lakes contain about 87% of this fresh surface water, including 29% in the African Great Lakes, 23% in

Lake Baikal in Russia, 21% in the North American Great Lakes, and 14% in other lakes. Swamps have most of the balance with only a small amount in rivers, most notably the Amazon River. The atmosphere contains 0.04% water. In areas with no fresh water on the ground surface, fresh water derived from precipitation may, because of its lower density, overlie saline ground water in lenses or layers. Most of the world's fresh water is frozen in ice sheets. Many areas suffer from lack of distribution of fresh water, such as deserts.

42) Consider the following pairs :
1. Nokrek Biosphere Reserve : Garo Hills
2. Logtak (Loktak) Lake : Barail Range
3. Namdapha National Park : Dafla Hills

Which of the above pairs is/are correctly matched?
A)1 only B)2 and 3 only C)1, 2 and 3 D)None

Nokrek National Park, or Nokrek Biosphere Reserve, is a national park located Approximately 2km from Tura Peak in West Garo Hills district of **Meghalaya,** India. UNESCO added this National park to its list of Biosphere Reserves in May 2009. Along with Balpakram, Nokrek is a hotspot of biodiversity in Meghalaya.

Loktak Lake, the largest freshwater (sweet) lake in northeast India, also called the only Floating lake in the world due to the floating phumdis (heterogeneous mass of vegetation, soil, and organic matters at various stages of decomposition) on it, is located near Moirang in Manipur state, India.The etymology of Loktak is Lok = "stream" and tak = "the end".The **Keibul Lamjao National Park**, which is the last natural refuge of the endangered sangai or Manipur brow-antlered deer (Cervus eldi eldi), one of three subspecies of Eld's Deer, covering an area of 40 km2 (15 sq mi), is situated in the southeastern shores of this lake and is the largest of all the phumdis in the lake.

Namdapha National Park is the largest protected area in the Eastern Himalaya biodiversity hotspot and is located in Arunachal Pradesh in Northeast India.

It is located in the Eastern Himalayan sub-region and is recognized as one of the richest areas in biodiversity in India. The park harbours the northernmost lowland evergreen rainforests in the world at 27°N latitude. The area is also known for extensive Dipterocarp forests.

43) Consider the following :
1. Electromagnetic radiation
2 . Geothermal energy
3. Gravitational force
4. Plate movements
5. Rotation of the earth
6. Revolution of the earth

Which of the above are responsible for bringing dynamic changes on the surface of the earth?
A) 1, 2, 3 and 4 only B)1, 3, 5 and 6 only
C)2, 4, 5 and 6 only **D) 1, 2, 3, 4 , 5 and 6**

44) Which of the following bodies does notfdo not find mention in the Constitution?
1. National Development Council
2. Planrung Commission
3. Zonal Councils

Select the correct answer using the codes given below.
A)1 and 2 only B)2 only C)1 and 3 only **D)1, 2 and 3**

The National Development Council (NDC) or the Rashtriya Vikas Parishad is the apex body for decision making and deliberations on development matters in India, presided over by the Prime Minister. It was set up on August 6, 1952 to strengthen and mobilize the effort and resources of the nation in support of the Plan, to promote common economic policies in all vital spheres, and to ensure the balanced and rapid development of all parts of the country. The Council comprises the Prime Minister, the Union Cabinet Ministers, Chief Ministers of all States or their substitutes, representatives of the Union Territories and the members of the Commissions.

It is an extra-constitutional and non-statutory body. Its status is advisory to Planning Commission but not binding.

The Planning Commission is an institution in the Government of India, which formulates India's Five-Year Plans, among other functions

The Planning Commission was set up by a Resolution of the Government of India in March 1950 in pursuance of declared objectives of the Government to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country, increasing production and offering opportunities to all for employment in the service of the community.

The Planning Commission does not derive its creation from either the Constitution or statute, but is an arm of the Central/Union Government.

Zonal Councils :The idea of creation of **Zonal Councils** was mooted by the first Prime Minister of India, Pandit Jawahar Lal Nehru in 1956 when during the course of debate on the report of the States Re-organisation Commission, he suggested that the States proposed to be reorganised may be grouped into four or five zones having an Advisory Council 'to develop the habit of cooperative working" among these States.

COMPOSITION OF ZONAL COUNCILS

In the light of the vision of Pandit Nehru, five Zonal Councils were set up vide Part-III of the States Re-organisation Act, 1956. The present composition of each of these Zonal Councils is as under:

The Northern Zonal Council, comprising the States of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, National Capital Territory of Delhi and Union Territory of Chandigarh;

The **Central Zonal Council**, comprising the States of Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh;

The **Eastern Zonal Council**, comprising the States of Bihar, Jharkhand, Orissa, Sikkim and West Bengal;

The **Western Zonal Council**, comprising the States of Goa, Gujarat, Maharashtra and the Union Territories of Daman & Diu and Dadra & Nagar Haveli; and

The **Southern Zonal Council**, comprising the States of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and the Union Territory of Puducherry.

The **North Eastern States** i.e. (i) Assam (ii) Arunachal Pradesh (iii) Manipur (iv) Tripura (v) Mizoram (vi) Meghalaya and (vii) Nagaland are not included in the Zonal Councils and their special problems are looked after by the North Eastern Council, set up under the North Eastern Council Act, 1972. The State of Sikkim has also been included in the North Eastern Council vide North Eastern Council (Amendment) Act, 2002 notified on 23rd December, 2002. Consequently, action for exclusion of Sikkim as member of Eastern Zonal Council has been initiated by Ministry of Home Affairs.

45) The demand for the Tebhaga Peasant Movement in Bengal was for

A). the reductton of the share of the landlords from one-half of the crop to one-third

B) The grant of ownership of land to peasants as they were the actual cultt\ a tors of the land

C) The uprootmg of Zamindari system and the end of serfdom

D) Writing off all peasant debts

The Tebhaga movement was a militant campaign initiated in Bengal by the Kisan Sabha (peasants front of Communist Party of India) in 1946. At that time share-cropping peasants (essentially, tenants) had to give half of their harvest to the owners of the land. The demand of the Tebhaga (sharing by thirds) movement was to reduce the share given to landlords to one third.

46) The Parliament can make any law for whole or any part of India for implementing international treaties

A) with the consent of all the States

B) with the consent of the majority of States

C)..with the consent of the States concerned

D) without the consent of any State

47) In the grasslands, trees do not replace the grasses as a part of an ecological succession because of

A) Insects and fungi

B) limited sunlight and paucity of nutrients

C) Water limits and fire

D) None of the above

48) Which one of the following is the correct sequence of ecosystems in the order of decreasing I productivity?

A) Oceans, lakes, grasslands, mangroves

B) Mangroves, oceans, grasslands, lakes

C) Mangroves, grasslands, lakes, oceans

D) Oceans, mangroves, lakes, grasslands

In ecology, productivity or production refers to the rate of generation of biomass in an ecosystem. It is usually expressed in units of mass per unit surface (or volume) per unit time, for instance grams per square metre per day. The mass unit may relate to dry matter or to the mass of carbon generated. Productivity of autotrophs such as plants is called primary productivity, while that of heterotrophs such as animals is called secondary productivity.

49) Contour bunding is a method of soil conservation used in

A) Desert margins, liable to strong wind action

B) Low flat plains, close to stream courses, liable to flooding

C) Scrublands, liable to spread of weed growth

D) None of the above

Contour plowing (or contour ploughing) or contour farming is the farming practice of plowing across a slope following its elevation contour lines. The rows formed slows water run-off during rainstorms to prevent soil erosion and allows the water time to settle into the soil. In contour plowing, the ruts made by the plow run perpendicular rather than parallel to slopes, generally resulting in furrows that curve around the land and are level. A similar practice is **contour bunding** where stones are placed around the contours of slopes.

50) The Government enacted the - Panchayat Extension to Scheduled Areas (PESA) Act in 1996. Which one of the following is not identified as its objective?

A)To provide self-governance

B)To recognize traditional rights

C)To create autonomous regions in tribal areas

D)To free tribal people from exploitation

PANCHAYATS (EXTENSION TO THE SCHEDULED AREAS) ACT, 1996 is an Act to provide for the extension of the provisions of **Part IX** of the Constitution relating to the Panchayats to the Scheduled Areas. Under this every Gram Sabha became the owner of natural resources; no acquisition of land for development projects and for resettling or rehabilitating persons affected by such projects without prior consultation of the Parishad; management of the Minor Water Bodies; recommendation prior to issue of prospecting license or mining lease for minor minerals.

51) Priority Sector Lending by banks in India constitutes the lending to

*A)*agriculture *B)*micro and small enterprises

*C)*weaker sections ***D)*All of the above**

Priority sector refers to those sectors of the economy which may not get timely and adequate credit. Typically, these are small value loans to farmers for agriculture and allied activities, micro and small enterprises, poor people for housing, students for education and other low income groups and weaker sections.

Priority Sector includes the following categories:

(i) Agriculture

(ii) Micro and Small Enterprises

(iii) Education

(iv) Housing

(v) Export Credit

(vi) Others

52) Which one among the following industries is the maximum consumer of water in India?

A) Engineering *B)* Paper and pulp

C) Textiles ***D)* Thermal power**

Of the total water use by the industry, thermal power plants are the biggest users of water and account for 88% of the total industrial water use. They are followed by engineering (5.05%) pulp & paper (2.26%) and textiles (2.07%) industries.

"**THE THERMAL POWER SECTOR** accounts for the highest water use amongst all industrial sectors. Rising power demand will mean greater generation; this in turn would lead to high water consumption," **Naina Lal Kidwai**, country head at HSBC in India and head of the water group at the **Federation of Indian Chambers of Commerce and Industry (FICCI).**

She was speaking at the release of a report titled **'Water Use and Efficiency in Thermal Power Plants'**. The report states that power generation will require **33 billion cubic metres** of water in 2025 and about **70 bcm** in 2050.

One cubic metre of water is equivalent to 1,000 litres.

53) To obtain full benefits of demographic dividend. what should India do?

***A)*Promoting skill development**

B) Introducing more social security schemes

C) Reducing infant mortality rate

D) Privatization of higher education.

The demographic dividend is a window of opportunity in the development of a society or nation that opens up as fertility rates decline when faster rates of economic growth and human development are possible when combined with effective policies and markets. The drop in fertility rates often follows significant reductions in child and infant mortality rates, as well as an increase in average life expectancy. As women and families realize that fewer children will die during infancy or childhood they will begin to have fewer children to reach their desired number of offspring

54) In the context of cultural history of India, a pose in dance and dramatics called 'Tribhanga' has been a favourite of Indian artists from ancient times till today. Which one of the following statements best describes this pose?

***A)*One leg is bent and the body is slightly but oppositely curved at waist and neck**

*B)*Facial expressions, hand gestures and make-up are combined to symbolize certain epic or historic characters

*C)*Movements of body, face and hands are used to express oneself or to tell a story

*D)*A little smile, slightly curved waist and certain hand gestures are emphasized to express the feelings of love or eroticism.

Tribhanga or Tribunga is a (tri-bent pose) standing body position or stance used in the traditional Indian sculpture, art and Indian classical dance forms like the Odissi. As compared with the contrapposto pose Tribhanga, literally meaning three parts break, consists of three bends in the body; at the neck, waist and knee, hence the body is oppositely curved at waist and neck which gives it a gentle "S" shape and is considered the most graceful and sensual of the Odissi positions. Closely associated with Hindu deity, Krishna, who is often portrayed in the posture.

The Indian classical dance of Odissi is characterized by various Bhangas or stance, which involves stamping of the foot and striking various postures as seen in Indian sculptures, they are four in number, namely Bhanga, Abanga, Atibhanga and Tribhanga being the most common of all.

55) Annie Besant was

1. responsible for starting the Home Rule Movement ...
2. The founder of the Theosophical Society .
3. once the President of the Indian National Congress .

Select the correct statement/ statements using the codes given below.

A) 1 only *B)*2 and 3 only ***C)*1 and 3 only** *D)*1, 2 and 3

- In June 1914, Bal Gangadhar Tilak was released from Mandalay. In the beginning he supported the British endeavors in the war. All the **moderates and extremists** alike were on a mistaken belief that a grateful Britain would repay India by making political concessions towards self-government, once the war is over.
- The congress was rendered politically inactive practically, after 1910. During the initial period of the World War-I, the new element of reunification of the congress started with the rise of **Annie Besant**, a theosophical leader. This 66 years lady (in 1914) had begun her career in England as a proponent of free thought, radicalism, Fabianism (socialism), and theosophy and was an ardent supporter of Irish and Indian self rule.
- She was born in 1847 into a family of Irish origin. The conditions prevalent at home taught her fighting for freedom of thought, secularism, women's rights etc. She started keeping in touch with the Irish home rulers and gave them support, while writing in the newspaper items.
- She had a close relationship with **George Bernard Shaw**, an Irish struggler living in London, who later cofounded London School of Economics.
- George Bernard Shaw is the only person to have been awarded both a Nobel Prize for Literature (1925) and an Oscar (1938), for his contributions to literature and for his work on the film Pygmalion.
- George sponsored Annie to join the Fabian Society.
- In 1875, Theosophical Society was established in New York as an organization to advance the spiritual principles and search for Truth known as Theosophy. Its prominent founding fathers were Helena Blavatsky, Henry Steel Olcott, William Quan Judge etc.
- In 1891, Helena Blavatsky died and soon after William Quan Judge was accused of forgery by Annie Besant and Henry Steel Olcott. Both Henry Steel
- Olcott and Annie Besant took most of the American society with themselves and this society which exists today in India is called the **Theosophical Society - Adyar**, when the organization's headquarters moved to Adyar, an area of Chennai in 1883.
- Prior to Annie Besant the leader was Charles Webster Leadbeater who got in some controversy over a sexual insinuation of the spirituality with the boys of the society.
- In 1898, she was instrumental in setting up of Central Hindu College, which in 1911 culminated as Banaras Hindu University with her joint efforts with Madan Mohan Malviya.
- In 1908, Annie Besant became President of Theosophical Society.
- By 1914, she had been associated with the Indian National Congress.
- When the war broke out and England declared a war against Germany, she famously said:
  " England's need is India's Opportunity".

56) The Ilbert Bill controversy was related to the

A) Imposition of certain restrictions to carry arms by the Indians

B) Imposition of restrictions on newspapers and magazines published in Indian languages

***(c)* Removal of disqualifications imposed on the Indian magistrates with regard to the trial of the Europeans**

D) Removal of a duty on imported cotton cloth

Ilbert Bill, in the history of India, a controversial measure proposed in **1883** that sought to allow senior Indian magistrates to preside over cases involving British

subjects in India. The bill, severely weakened by compromise, was enacted by the Indian Legislative Council on Jan. 25, 1884. The bitter controversy surrounding the measure deepened antagonism between British and Indians and was a **prelude to the formation of the Indian National Congress** the following year.

British subjects in 1873 had been exempted from trial by Indian magistrates, and in cases involving death or transportation they could only be tried by a high court. But by 1883 the viceroy, Lord Ripon, proposed to make British subjects amenable to sessions courts, over which Indians were now senior enough in the civil service to preside. This proposal as embodied in the Ilbert Bill provoked furious protests. A compromise was reached by which a British subject could claim a jury, **half of which would be Europeans**. The new Westernized Indian middle class felt itself slighted by this arrangement, and the incident did much to give Indian national feeling a political form.

The Ilbert Bill:

The discrimination between the Indians and the Europeans appeared to be inhuman and unjust to the liberal Viceroy Lord Ripon. Under his instruction ,Sir Ilbert, The Law Member of the Council, introduced a Bill who sought to abolish the discrimination between the Indians and the Europeans. This Bill of 1883 is popularly known as the 'Ilbert Bill'. With the publication of the bill the European community in India burst out in violent protest.

Counter-Movement:

The Indian Association under the leadership of Surendranath Banerjee started a vigorous movement against the European agitation opposing the Ilbert Bill.

57) A rise in general level of prices may be caused by

1. an increase in the money supply
2. a decrease in the aggregate level of output
3. an increase in the effective demand

Select the correct answer using *the* codes given below.

*A)*1 only *B)*1and 2 only (c) 2 and 3 only **(d)1,2 and 3**

58) Which one of the following groups of items is included in India's foreign-exchange reserves?

A)) Foreign-currency assets, Special Drawing Rights (SDRs) and loans from foreign countries

***B)*Foreign-currency assets, gold holdings of the RBI and SDRs**

C) Foreign-currency assets, loans from the World Bank and SDRs

D) Foreign-currency assets, gold holdings of the RBI and loans from the World Bank.

TOTAL RESERVES
1. Foreign Currency Assets
2. Gold
3. SDRs
4. Reserve Position in the IMF

Foreign Exchange Reserves also known as Official Reserves and International Reserves are the foreign assets held or controlled by the central banks. The reserves themselves can either be gold or a specific currency like the dollar or the euro. They can also be special drawing rights and marketable securities denominated in foreign currencies like treasury bills, government bonds, corporate bonds and equities and foreign currency loans. The reserves are generally used to finance the balance of payments imbalances or to control exchange rates.

Foreign Exchange Reserves as given by RBI

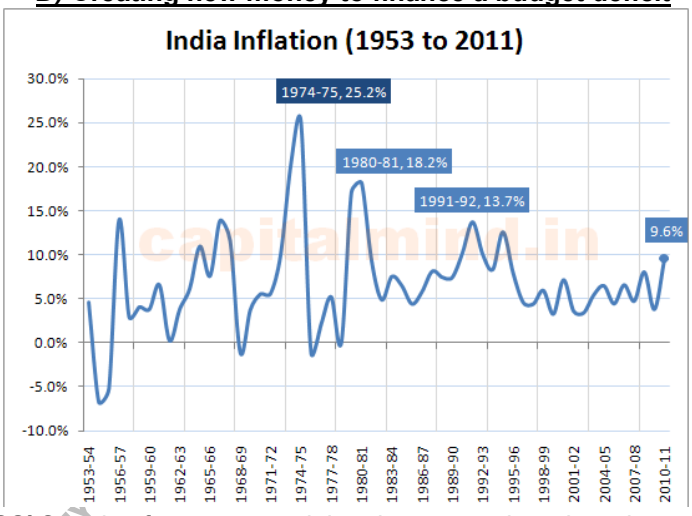
59) Which one of the following is likely to be the most inflationary in its effect?

A) Repayment of public debt

B) Borrowing from the public to finance a budget defic1t

C) Borrowing from banks to finance a budget deficit

***D)* Creating new money to finance a budget deficit**



60) Supply of money remaining the same when there is an increase in demand for money, there will be

A) A fall in the level of prices

***B)* An increase in the rate of interest**

C) A decrease in the rate of interest

D) An increase in the level of income and employment.

61) Fruits stored in a cold chamber exhibit longer storage life because

A) Exposure to sunlight is prevented

B) Concentration dioxide in the is increased of carbon Environment

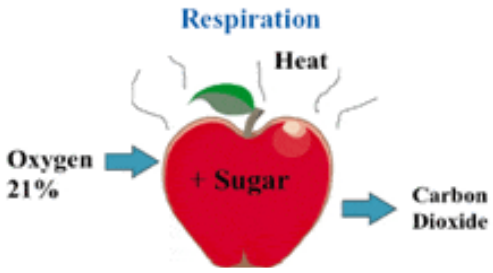
***C)* Rate of respiration is decreased**

D) There is an increase in humidity.

When a fruit or vegetable is harvested from the tree, it is still living. Chemical reactions are going one within it, with liberation of gases and heat. In other words, it is still respiring. This respiration process contributes to aging or senescence of the fruit.

Respiration is the chemical process by which fruits and vegetables convert sugars and oxygen into carbon dioxide, water, and heat.During postharvest handling and storage, fresh fruits and vegetables lose moisture through their skins via the transpiration process. Commodity deterioration, such as shrivelling or impaired flavour, may result if moisture loss is high. In order to minimize losses due to transpiration, and thereby increase both market quality and shelf life, commodities must be stored in a low temperature, high humidity environment. In addition to proper storage conditions, various skin coatings and moisture-proof films can be used during commodity packaging to significantly reduce transpiration and extend storage life

Metabolic activity in fresh fruits and vegetables continues for a short period after harvest. The energy required to sustain this activity comes from the **respiration process.**



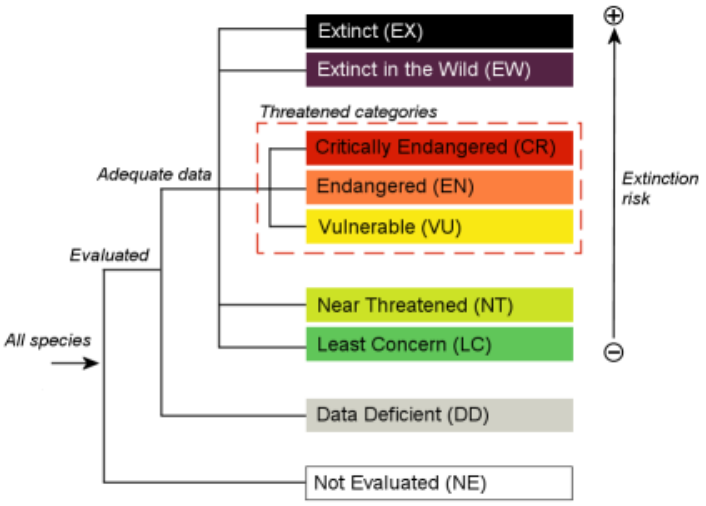
Respiration involves the oxidation of sugars to produce carbon dioxide, water and heat. The storage life of a commodity is influenced by its respiratory activity. By storing a commodity at **low temperature**, **respiration is reduced and senescence is delayed, thus extending storage life**. Proper control of the **oxygen and carbon dioxide concentrations** surrounding a commodity is also effective in reducing the rate of respiration.

Properly designed and operated refrigerated storage facilities will extend the storage life of commodities by providing a low temperature, high humidity environment which reduces moisture loss and decreases respiratory activity. A thorough knowledge of the transpiration and respiration processes will allow both the designer and operator of cold storage facilities to achieve **optimum storage conditions**.

Moisture loss from a fruit or vegetable is driven by a difference in water vapor pressure between the product surface and the environment. The product surface may be assumed to be saturated, and thus, the water vapor pressure at the commodity surface is equal to the water vapor saturation pressure evaluated at the product's surface temperature. However, dissolved substances in the moisture of the commodity tend to lower the vapor pressure at the evaporating surface slightly .

Evaporation which occurs at the product surface is an endothermic process which will cool the surface, thus lowering the vapor pressure at the surface and reducing transpiration. **Respiration within the fruit or vegetable, on the other hand, tends to increase the product's temperature**, thus raising the vapor pressure at the surface and increasing transpiration. Furthermore, the respiration rate is itself a function of the commodity's temperature. In addition, factors such as surface structure, skin permeability, and air flow also effect the transpiration rate. Thus, it can be seen that within fruits and vegetables, complex heat and mass transfer phenomena occur, which must be considered when evaluating the transpiration rates of commodities.

62) Consider the following fauna of India :
1. Gharial 2. Leatherback turtle 3. Swamp deer
Which of the above is/are endangered?
*A)*1 and 2 only *B)*3 only ***(c)*1, 2 and 3** *D)* None



The **IUCN Red List of Threatened Species** (also known as the **IUCN Red List or Red Data List**), founded in **1963,** is the world's most comprehensive inventory of the global conservation status of biological species. The **International Union for Conservation of Nature (IUCN)** is the world's main authority on the conservation status of species. A series of Regional Red Lists are produced by countries or organizations, which assess the risk of extinction to species within a political management unit.

Species are classified by the IUCN Red List into nine groups, set through criteria such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

- Extinct (EX) – No known individuals remaining.
- Extinct in the Wild (EW) – Known only to survive in captivity, or as a naturalized population outside its historic range.
- Critically Endangered (CR) – Extremely high risk of extinction in the wild.
- Endangered (EN) – High risk of extinction in the wild.
- Vulnerable (VU) – High risk of endangerment in the wild.
- Near Threatened (NT) – Likely to become endangered in the near future.
- Least Concern (LC) – Lowest risk. Does not qualify for a more at risk category. Widespread and abundant taxa are included in this category.
- Data Deficient (DD) – Not enough data to make an assessment of its risk of extinction.
- Not Evaluated (NE) – Has not yet been evaluated against the criteria.

When discussing the IUCN Red List, the official term "threatened" is a grouping of three categories: Critically Endangered, Endangered, and Vulnerable.

The Red list of 2012 is out on 18 February 2012 at Rio +20 Earth Summit. Red List has listed 132 species of plants and animals as Critically Endangered from India.

63) Ball bearings are used in bicycles,cars, etc., because

A) the actual area of contactbetween the wheel and axle is increased

*B)*the effective area of contact between the wheel and axle is increased

***(c)* the effective area of contact between the wheel and axle is reduced**

*D)*None of the above statements is correct

Purpose: Ball Bearings are used primarily to support rotating shafts in mechanical equipment. They can be found in the smallest electric motors to the largest pieces of industrial equipment. They are of simple design and can be precision manufactured in mass production quantities. They can support heavy loads over a wide speed range and do it virtually friction free. They come in many different sizes and shapes, are relatively inexpensive, and require little or no maintenance. They have predictable design lives and operating characteristics and are truly a valuable asset to the rotating equipment industry.

Description: A ball bearing consists of an inner ring (IR), an outer ring (OR), a complement of balls, and a separator. The outer diameter of the inner ring (IROD) and the inner diameter of the outer ring (ORID) have a groove in which the balls roll. The groove is commonly called the **pathway**. The raised surface on each side of the pathway is called the **shoulder**. The balls are held equally spaced around the annulus of the bearing by the separator. The basic dimensions of the bearing are the bore (B), outside diameter (OD), and the width (W). The radius of curvature of the pathway must be closely controlled in relation to the ball diameter in order for the bearing to operate satisfactorily. If the radius of curvature is too close to the ball diameter, the bearing will operate with a high amount of friction. If the radius of curvature is too large in relation to the ball diameter, the bearing will operate under a high stress level. Both conditions will contribute to premature bearing failure. The radius of curvature of the inner ring and outer rings is normally held to 52 - 53% of ball diameter.

Theory of Operation: In most applications, there are two ball bearings supporting a rotating shaft. The inner ring is a press fit on the shaft while the outer ring is a close push fit into the housing. The shaft and inner ring rotate together while the outer ring remains stationary or undergoes slight rotational creep in the housing. The separator and ball complement rotate around at about half the speed of the inner ring. The balls rotate around their own axis about twice the speed of the inner ring. Loads, or forces, are imposed on the bearings by the equipment that is driving or being driven by the shaft. The loads can be separated into a radial component that acts 90 degrees to the shaft and a thrust component that acts along the centerline of the shaft. Normally the radial component is reacted by just a few balls in the bearing while the thrust component is supported by all the balls in the bearing.

64) Consider the following phenomena :

1. Size of the sun at dusk
2. Colour of the sun at dawn
3. Moon betng visible at dawn
4. Twinkle of stars in the sky
5. Polestar being visible in the sky

Which of the above are optical illusions?

*A)*1, 2 and 3 *B)*3, 4 and 5 ***C)*1, 2 and 4** *D)* 2, 3 and 5

An optical illusion (also called a visual illusion) is characterized by visually perceived images that differ from objective reality. The information gathered by the eye is processed in the brain to give a perception that does not tally with a physical measurement of the stimulus source.

There are three main types: **literal optical illusions** that create images that are different from the objects that make them, **physiological** ones that are the effects on the eyes and brain of excessive stimulation of a specific type (brightness, colour, size, position, tilt, movement), and **cognitive illusions**, the result of unconscious inferences.

65) Rainbow is produced when sunlight falls on drops of rain. Which of the following physical phenomena are responsible for this?

1. Dispersion
2. Refraction
3. Internal reflection

Select the correct answer using the codes given below.

A) 1 and 2 only *B)*2 and 3 only

C) 1 and 3 only ***D)*1, 2 and 3**

The light is first **refracted** entering the surface of the raindrop**, reflected** off the back of the drop, and again refracted as it leaves the drop. The overall effect is that the incoming light is reflected back over a wide range of angles, with the most intense light at an angle of **42°.**The angle is independent of the size of the drop, but does depend on its refractive index. Seawater has a higher refractive index than rain water, so the radius of a "rainbow" in sea spray is smaller than a true rainbow. This is visible to the naked eye by a misalignment of these bows.

The amount by which light is refracted depends upon its wavelength, and hence its colour. This effect is called **dispersion.** Blue light (shorter wavelength) is refracted at a greater angle than red light, but due to the reflection of light rays from the back of the droplet, the blue light emerges from the droplet at a smaller angle to the original incident white light ray than the red light. Due to this angle, **blue is seen on the inside of the arc of the primary rainbow**, and red on the outside.

The light at the back of the raindrop does not undergo total internal reflection, and some light does emerge from the back. However, light coming out the back of the raindrop does not create a rainbow between the observer and the Sun because spectra emitted from the back of the raindrop do not have a maximum of intensity, as the other visible rainbows do, and thus the colours blend together rather than forming a rainbow.

A rainbow does not actually exist at a particular location in the sky. Its **apparent position depends on the observer's location and the position of the sun**. All raindrops refract and reflect the sunlight in the same way, but only the light from some raindrops reaches the observer's eye. This light is what constitutes the rainbow for that observer.

66) Many planted seedlings do not grow because

A) The new soil does not contain favourable minerals

B) Most of the root hairs grip the new soil too hard

***C)* Most of the root hairs are lost during transplantation**

D) Leaves get damaged during transplantation

In agriculture and gardening, **transplanting or replanting** is the technique of **moving a plant from one location to another.** Most often this takes the form of starting a plant from seed in optimal conditions, such as in a greenhouse or protected nursery bed, then replanting it in another, usually outdoor, growing location. Botanical transplants are used infrequently and carefully because they carry with them a significant risk of killing the plant.

Transplanting has a variety of applications, including:

- Extending the growing season by starting plants indoors, before outdoor conditions are favorable;
- Protecting young plants from diseases and pests until they are sufficiently established;
- Avoiding germination problems by setting out seedlings instead of direct seeding.

Different species and varieties react differently to transplanting; for some, it is not recommended. In all cases, avoiding **transplant shock**—the stress or damage received in the process—is the principal concern. Plants raised in protected conditions usually need a period of **acclimatization** [Adaptation to a new climate (a new temperature, altitude or environment)], known as hardening off. Also, root disturbance should be minimized. The stage of growth at which transplanting takes place, the weather conditions during transplanting, and treatment immediately after transplanting are other important factors.

67) Economic growth in country *X* will necessarily have to occur if

A) There is technical progress in the world economy

B) There is population growth in *X*

C)* There is capital formation in *X

D) *""the* volume of trade grows in the world economy

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation. For comparing one country's economic growth to another, GDP or GNP per capita should be used as these take into account population differences between countries. Economic growth is usually associated with technological changes. An example is the large growth in the U.S. economy during the introduction of the Internet and the technology that it brought to U.S. industry as a whole.

Economic development generally refers to the sustained, concerted actions of policymakers and communities that promote the standard of living and economic health of a specific area. Economic development can also be referred to as the quantitative and qualitative changes in the economy. Such actions can involve multiple areas including development of human capital, critical infrastructure, regional competitiveness, environmental sustainability, social inclusion, health, safety, literacy, and other initiatives. Economic development differs from economic growth. Whereas economic development is a policy intervention endeavour with aims of economic and social well-being of people, economic growth is a phenomenon of market productivity and rise in GDP. Consequently, as economist Amartya Sen points out: "economic growth is one aspect of the process of economic development."

68) Which of the following statements is / are correct?

1. Viruses lack enzymes necessaryfor the generation of energy.
2..Viruses can cultural in any synthetic medium
3.Viruses are transmitted from one organism to another by biological vectors only.

Select the correct answer using the codes given below.

***A)*1 only** *B)*2 and 3 only *C)*1 and 3 only *D)*1, 2 and 3

Viruses are the most primitive cellular and non-cytoplasmic infectious agents. Russian botanist **D.J. Iwanowski (1892)** first discovered virus in an infected tobacco plant. However, **M.W. Beijerink (1898)** coined the term virus. Then American chemist **W.M. Stanley (1935)** isolated pure crystal of Tobacco Mosaic Viruses (TMV) and concluded that viruses are made of nucleoproteins.

General Characteristics of Viruses:

(i) Viruses are a cellular, non-cytoplasmic infectious agents.

(ii) They are smaller than bacteria, and this can pass through bacteriological filter.

(iii) Viruses are transmissible from disease to healthy organisms.

(iv) All viruses are obligate parasites and can multiply only within the living host cells.

(v) Viruses contain only a single type of nucleic acid either DNA or RNA.

(vi) Viruses are host specific that they infect only a single species and definite cells of the host organisms.

(vii) Viruses are effective in very small doses. They are highly resistant to germicides and extremes of physical conditions.

Biological position of viruses:

Viruses lack a cytoplasmic membrane and they do not have the basic component of a cell. They can only replicate inside the host cell. Outside the host cell, they are non-living. Thus, viruses show characters of both living and non-living.

(I) Non-living Characters of Viruses:

Following characters of viruses assign them as non-living:

(a) They can be crystallized.

(b) Outside the cell, they behave like inert chemicals.

(c) They do not show growth, development, nutrition, reproduction, etc.

(d) They can be precipitated.

(II) Living characters of viruses:

(a) They multiply within host cells.

(b) They possess genetic material, either DNA or RNA.

(c) There are definite races or strains.

(d) They exhibit mutations.

Because of the above reasons, viruses form unique bridge between living and non-living things.

Viral Culture

Unlike most bacteria that can be grown in artificial media (eg. agar plates, nutrient broth) **viruses cannot be grown on**

artificial media but must be grown in living cells. There are only **three ways** in which viruses can be grown in the laboratory.

- In a living host such as an animal or plant (if it is a plant virus)
- In an embryonated egg. The virus grows in the developing chick embryo or associated tissues
- In tissue or cell culture. Most commonly today cells derived from tissues rather than the tissues themselves are used. Cell culture has many advantages, such as:
  - no use of whole animals
  - cells keep growing and are a renewable resource
  - many different kinds of cells can be used, including human cells
  - cells can be grown in various containers and numbers to suit needs
  - Surplus cells can be stored indefinitely in liquid nitrogen (-196°C).

Viral Enzymes

Virions do not carry on metabolic processes, although some virions contain enzymes that play roles in the infection process.

Ex. some virions contain **lysozyme** which makes holes in the bacterial cell wall to allow the viral nucleic acid to enter the cell.

Viruses may contain their own nucleic acid polymerases or enzymes that the host cell does not have, ex. **reverse transcriptase of retroviruses**. Some viruses contain enzymes to aid in the release of new viruses from the host cell.

69) Which of the following leaf modification occurs/occur in desert areas to inhibit water loss?

1. Hard and waxy leaves /
2. Tiny leaves or no leaves
3. Thorns instead of leaves

Select the correct answer using the codes given below.

*A)*1 and 2 only *B)*2 only *C)*1and 3 only ***D)*1, 2 and 3**

In deserts, precipitation is low and the temperature is often hot, so evaporation is also high. Water can be scarce in the desert. Over many generations in the dry, desert environment, the most successful organisms survive and reproduce the best. These organisms are well-suited to their environment because they have special adaptations to desert conditions. Adaptations are features of organisms that help them survive and reproduce. They are the traits that result from many generations of Natural Selection.

Desert plants have several types of adaptations that help them conserve water.

1. A leathery or waxy coating on the leaves and stems reduces evaporation.

2. Thick stems or other plant parts provide water storage space.

3. Small leaves or spines (modified leaves) reduce the surface area of the plant exposed to the sun. (Some plants such as the ocotillo and palo verde shed their leaves during dry spells, further reducing their surface area.)

4. Spines and fine hairs reflect heat and reduce the air flow over the plant's surface.

Many plants have a combination of these adaptations. For example, the hedgehog cactus has enlarged stems, a thick waxy coating and a dense cover of spines.

70) The known forces of nature can be divided into four classes, viz., gravity, electromagnetism, weak nuclear force and strong nuclear force. With reference to them, which one of the following statements is ***not*** correct?

***A)*Gravity is the strongest of the four**

*B)*Electromagnism acts only on particles with an electric Charge

C)Weak nuclear force causes radioactivity

*D)*Strong nuclear force holds protons and neutrons inside the nucleus of an atom.

Forces of nature

Sir Issac Newton was the first one to give an exact definition for force. *"Force is the external agency applied on a body to change its state of rest and motion".* There are four basic forces in nature. They are gravitational force, electromagnetic force, strong nuclear force and weak nuclear force.

Gravitational force

It is the force between any two objects in the universe. It is an attractive force by virtue of their masses. By Newton's law of gravitation, the gravitational force is directly proportional to the product of the masses and inversely proportional to the square of the distance between them. Gravitational force is the weakest force among the fundamental forces of nature but has the greatest large–scale impact on the universe. Unlike the other forces, gravity works universally on all matter and energy, and is universally attractive.

Electromagnetic force

It is the force between charged particles such as the force between two electrons, or the force between two current carrying wires. It is attractive for unlike charges and repulsive for like charges. The electromagnetic force obeys inverse square law. It is very strong compared to the gravitational force. It is the combination of electrostatic and magnetic forces.

Strong nuclear force

It is the strongest of all the basic forces of nature. It, however, has the shortest range, of the order of 10^{-15} m. This force holds the protons and neutrons together in the nucleus of an atom.

Weak nuclear force

Weak nuclear force is important in certain types of nuclear process such as β-decay. This force is not as weak as the gravitational force.

71) The efforts to detect the existence -' of Higgs boson particle have become frequent news in the recent past. What isjare the importance/ importances of discovering this particle?

1. It will enable us to understand as to why elementary particles have mass.
2. It will enable us in the near future to develop the technology of transferring matter from one point to another without traversing the physical space between them.
3. It will enable us to create better fuels for nuclear fission.

Select the correct answer using the codes given below.

***A)* 1 only** *B)* 2 and 3 only *C)* I and 3 only *D)* 1, 2 and 3

The **Higgs boson or Higgs particle** is an elementary particle initially theorised in **1964,** and tentatively confirmed to exist on **14 March 2013.** The discovery has been called "monumental" because it appears to confirm the existence of the Higgs field, which is pivotal to the Standard Model and other theories within particle physics. In this discipline, it explains why some fundamental particles have mass when the symmetries controlling their interactions should require them to be massless, and—linked to this—why the weak force has a much shorter range than the electromagnetic force.

The Higgs boson is named after Peter Higgs, one of six physicists who, in 1964, proposed the mechanism that suggested the existence of such particle.

Satyendra Nath Bose FRS was an Indian physicist specializing in mathematical physics. He was born in Calcutta. He is best known for his work on quantum mechanics in the early 1920s, providing the foundation for Bose–Einstein statistics and the theory of the Bose–Einstein condensate. A Fellow of the Royal Society, the Government of India awarded him India's second highest civilian award, the Padma Vibhushan in 1954. The class of particles that obey Bose–Einstein statistics, **bosons,** was named after him by Paul Dirac.

72) Mycorrhizal biotechnology has been used in rehabilitating degraded sites because mycorrhiza enables the plants to

1. resist drought and increase absorptive area
2. tolerate extremes of pH
3. resist disease infestation

Select the correct answer using the codes given below.

*A)*1 only *B)* 2 and 3 only *C)*1 and 3 only ***D)*1, 2 and 3**

"Mycor" – "rhiza" literally means "fungus" – "root" and defines the mutually beneficial relationship between the plant and root fungus. These specialized fungi colonize plant roots and extend far into the soil. Mycorrhizal fungal filaments in the soil are truly extensions of root systems and are more effective in nutrient and water absorption than the roots themselves. More than 90 percent of plant species in natural areas form a symbiotic relationship with the beneficial mycorrhizal fungi.

Mycorrhizal fungi increase the surface absorbing area of roots 100 to a 1,000 times, thereby greatly improving the ability of the plant to access soil resources. Several miles of fungal filaments can be present in less than a thimbleful of soil. Mycorrhizal fungi increase nutrient uptake not only by increasing the surface absorbing area of the roots, but also release powerful enzymes into the soil that dissolve hard-to-capture nutrients, such as organic nitrogen, phosphorus, iron and other "tightly bound" soil nutrients. This extraction process is particularly important in plant nutrition and explains why non-mycorrhizal plants require high levels of fertility to maintain their health. Mycorrhizal fungiform an intricate web that captures and assimilates nutrients, conserving the nutrient capital in soils.

73) Who among the following constitute the National Development Council?

1.The Prime Minister
2.The Chairman,Finance Commission
3. Ministers of the Union Cabinet
4. Chief Ministers of the States ,.

Select the answer using th codes given below.

*A)*1, 2 and 3 only ***B)*1, 3 and 4 only**
*C)*2 and 4 only *D)*1, 2, 3 and 4

The National Development Council (NDC) or the Rashtriya Vikas Parishad is the apex body for decision making and deliberations on development matters in India, presided over by the Prime Minister. It was set up on August **6, 1952** to strengthen and mobilize the effort and resources of the nation in support of the Plan, to promote common economic policies in all vital spheres, and to ensure the balanced and rapid development of all parts of the country. It is an extra-constitutional and non-statutory body. Its status is advisory to Planning Commission but not binding.

Composition

The National Development Council is presided over by the Prime Minister of India and includes all Union Ministers, Chief Ministers of all the States and Administrators of Union Territories and Members of the Planning Commission. Ministers of State with independent charge are also invited to the deliberations of the Council.

74) The national income of a contry for a given period is equal to the

A) Total vaiue of goods and services produced by the nationals.
B) Sum of total consumption and investment expenditure
C) Sum of personal income of all individuals
D) Money value of final goods and services produced.

National Income is also known as National Income at factor cost. National income at factor cost means the sum of all incomes earned by resources suppliers for their contribution of land, labor, capital and organizational ability which go into the years net production. Hence, the sum of the income received by factors of production in the form of rent, wages, interest and profit is called National Income. Symbolically,

NI=NNP+Subsidies-Interest Taxes
or,GNP-Depreciation+Subsidies-Indirect Taxes
or,NI=C+G+I+(X-M)+NFIA-Depreciation-Indirect Taxes+Subsidies

75) Which of the followingrants/grant direct credit assistance to rural households?

1. Regional Rural Banks
2. National Bank for Agriculture and Rural Development
3. Land Development Banks

Select the correct answer using the codes given below.

*A)*1 and 2 only *B)*2 only ***(c)*1 and 3 only** *D)*1, 2 and 3

NABARD is set up as an apex Development Bank established in 1982 with a mandate for facilitating credit flow for promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts. It also has the mandate to support all other allied economic activities in rural areas, promote integrated and sustainable rural development and secure prosperity of rural areas. In discharging its role as a facilitator for rural prosperity NABARD is entrusted with

1. Providing refinance to lending institutions in rural areas
2. Bringing about or promoting institutional development and
3. Evaluating, monitoring and inspecting the client banks

Besides this pivotal role, NABARD also:

- Acts as a coordinator in the operations of rural credit institutions
- Extends assistance to the government, the Reserve Bank of India and other organizations in matters relating to rural development
- Offers training and research facilities for banks, cooperatives and organizations working in the field of rural development
- Helps the state governments in reaching their targets of providing assistance to eligible institutions in agriculture and rural development
- Acts as regulator for cooperative banks and RRBs

76) Consider the following statements : The Parliamentary Committee onPublic Accounts
1. consists of not more than 25 Members of the Lok Sabha
2. scrutinizes appropriation and finance accounts of the Government
3. examines the report of the Comptroller and Auditor General of India
Which of the statements given above is/are correct?
*A)*1 only ***B) 2 and 3 only*** *C)*3 only *D)*1, 2 and 3

The Committee on Public Accounts is constituted by Parliament each year for examination of accounts showing the **appropriation of sums granted by Parliament for expenditure of Government of India, the annual Finance Accounts of Government of India, and such other Accounts** laid before Parliament as the Committee may deem fit such as accounts of autonomous and semi-autonomous bodies (except those of Public Undertakings and Government Companies which come under the purview of the Committee on Public Undertakings).

The PAC is formed every year with a strength of not more than **22 members** of which **15 are from Lok Sabha** and **7 from Rajya Sabha**. The term of office of the members is **one year.** The **Chairman is appointed by the Speaker of Lok Sabha**. Since 1967, the chairman of the committee is selected from the opposition. Earlier, it was headed by a member of the ruling party. Its **chief function is to examine the audit report of Comptroller and Auditor General (CAG) after it is laid in the Parliament**. CAG assists the committee during the course of investigation. None of the 22 members shall be a minister in the government.

The present PAC is headed by **Dr. Murli Manohar Joshi** of the Bharatiya Janata Party.

77) Consider the following Bhakti Saints :
1. Dadu Dayal 2.Guru Nanak 3. Tyagaraja
Who among the above was/were preaching when the Lodi dynasty fell and Babur took over?
*A)*1 and 3 ***B)2 only*** *C)*2 and 3 *D)*1 and 2

Lodis (1451-1526)

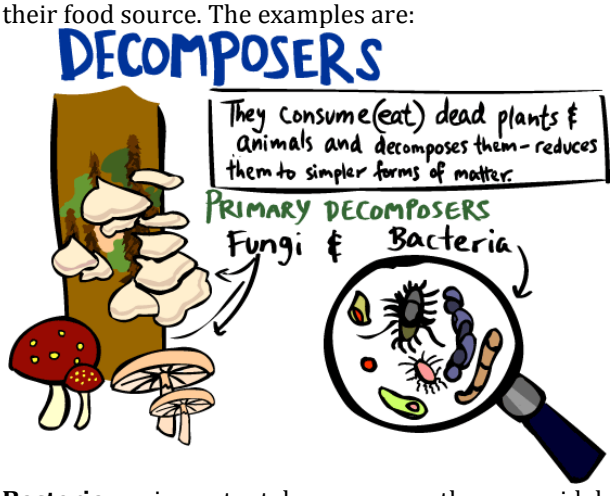
The Lodis, who succeeded Sayyids, were Afghans. **Buhlul Lodi** was the first Afghan ruler while his predecessors were all Turks. He died in 1489 and was succeeded by his son, Sikandar Lodi.

Sikandar Lodi (1489-1517) was the greatest of the three Lodi sovereigns. He brought the whole of Bihar under his control, many Rajput chiefs were defeated. He attacked Bengal and forced its ruler to conclude a treaty with him, and extended his empire from the Punjab to Bihar. He was a good administrator. Roads were laid and many irrigational facilities were provided for the benefit of the peasantry. Despite certain laudable qualities, he was a bigot. He destroyed many Hindu temples and imposed many restrictions on the Hindus. Yet, he was one of the great Lodi sultans who made the sultanate strong and powerful.

Sikandar Lodi was succeeded by his eldest son **Ibrahim Lodi** who was arrogant. He insulted his nobles openly in court and humiliated them. Those nobles who revolted were put to death. His own uncle, Alauddin revolted. Daulat Khan Lodi, the governor of the Punjab was insulted and disaffection between king and courtier became very common. Greatly displeased by the arrogance of Ibrahim, **Daulat Khan Lodi invited Babur** to invade India. Babur marched against Delhi and defeated and killed Ibrahim Lodi in the **first battle of Panipat (1526).** The Afghan kingdom lasted for only seventy-five years.

78) With reference to the food chains in ecosystems, which of the following kinds of organism is/are known as decomposer organism/ organisms?
1. Virus 2. Fungi 3. Bacteria
Select the correct answer using the codes given below.
A) 1 only ***B) 2 and 3 only*** *C)* 1 and 3 only *D)* 1, 2 and 3

Decomposers (or saprotrophs) are organisms that **break down dead or decaying organisms**, and in doing so carry out the natural process of decomposition. Like herbivores and predators, decomposers are **heterotrophic**, meaning that they use organic substrates to get their energy, carbon and nutrients for growth and development. Decomposers can break down cells of other organisms using biochemical reactions that convert the prey tissue into metabolically useful chemical products, without need for internal digestion. Decomposers use dead organisms and non-living organic compounds as their food source. The examples are:



Bacteria are important decomposers; they are widely distributed and can break down just about any type of organic matter. A gram of soil typically contains 40 million bacterial cells, and the bacteria on Earth form a biomass that exceeds that of all living plants and animals.

- The primary decomposers of litter in many ecosystems are **fungi.** Unlike bacteria, which are unicellular organisms, most saprotrophic fungi grow as a branching network of hyphae. While bacteria are restricted to growing and feeding on the exposed surfaces of organic matter, fungi can use their hyphae to penetrate larger pieces of organic matter. Additionally, only wood-decay fungi have evolved the enzymes necessary to decompose lignin, a chemically

complex substance found in wood. These two factors make fungi the primary decomposers in forests, where litter has high concentrations of lignin and often occurs in large pieces.

- Various **types of worms** are also considered decomposers, as they act as scavengers.

79) The most important fishing grounds of the world are found in the regions where

A) Warm and cold atmospheric currents meet

B) Rivers drain out large amounts of freshwater into the sea

***C)* Warm and cold oceanic currents meet**

D) Continental shelf IS undulating

- Areas where warm and cold currents meet tend to have regular foggy conditions, as the overlying warm and cold air come in contact with each other.
- They also tend to have high biological productivity, because plankton growth is encourage by the mixing of warm and cold currents.
- Some of the world's most productive fishing grounds are located where warm and cold currents converge.
- For example, where Labrador Current (cold) and Gulf Stream (warm) meet, a dense fog is there and it is one of the richest fishing grounds of the world.

80) Which of the following is/are unique characteristic / character is tics of equatorial forests.?

1. Presence of tall, closely set trees with crowns forming a continuous canopy
2. Coexistence of a large number of species
3. Presence of numerous varieties of epiphytes

Select the correct answer using the codes given below.

*A)*1 only *B)*2 and 3 only *C)*1 and 3 only ***D)*1, 2 and 3**

A tropical rainforest or equatorial forest is an ecosystem type that occurs roughly within the latitudes 28 degrees north or south of the equator (in the **equatorial zone** between the Tropic of Cancer and Tropic of Capricorn). This ecosystem experiences high average temperatures and a significant amount of rainfall. Rainforests can be found in Asia, Australia, Africa, South America, Central America, Mexico and on many of the Pacific, Caribbean, and Indian Ocean islands. Within the World Wildlife Fund's biome classification, tropical rainforests are thought to be a type of tropical wet forest (or tropical moist broadleaf forest) and may also be referred to as lowland equatorial evergreen rainforest

Tropical rainforests are **unique in the high levels of biodiversity they exhibit**. Around 40% to 75% of all biotic species are indigenous to the rainforests. Rainforests are home to half of all the living animal and plant species on the planet. Two-thirds of all flowering plants can be found in rainforests.

Tropical rainforests have been called the **"jewels of the Earth"** and the **"world's largest pharmacy",** because over one quarter of natural medicines have been discovered within them.

Rainforests are divided into different strata, or layers, with vegetation organized into a vertical pattern from the top of the soil to the canopy.

81) Which of the following constitute Capital Account?

1. Foreign Loans · 2. Foreign Direct Investment ./
3. Private Remittances/ 4. Portfolio Investment

Select the correct answer using the codes given below.

*(a)*1, 2 and 3 ***B)*1, 2 and 4** *C)*2, 3 and 4 *D)*1, 3 and 4

The capital account (also known as financial account) is one of two primary components of the balance of payments, the other being the current account. Whereas the current account reflects a nation's net income, the capital account reflects net change in national ownership of assets

A surplus in the capital account means money is flowing into the country, but unlike a surplus in the current account, the inbound flows will effectively be borrowings or sales of assets rather than earnings. A deficit in the capital account means money is flowing out the country, but it also suggests the nation is increasing its claims on foreign assets.

$$\begin{aligned}\text{Capital account} = {} & \text{Foreign direct investment} \\ & + \text{Portfolio investment} \\ & + \text{Other investment} \\ & + \text{Reserve account}\end{aligned}$$

- **Foreign direct investment (FDI),** refers to long term capital investment such as the purchase or construction of machinery, buildings or even whole manufacturing plants. If foreigners are investing in a country, that is an inbound flow and counts as a surplus item on the capital account
- **Portfolio investment** refers to the purchase of shares and bonds. It's sometimes grouped together with "other" as short term investment.
- Other investment includes capital flows into bank accounts or provided as loans. Large short term flows between accounts in different nations are commonly seen when the market is able to take advantage of fluctuations in interest rates and / or the exchange rate between currencies. Sometimes this category can include the reserve account.
- **Reserve account**. The reserve account is operated by a nation's central bank to buy and sell foreign currencies; it can be a source of large capital flows to counteract those originating from the market. Inbound capital flows (from sales of the account's foreign currency), especially when combined with a current account surplus, can cause a rise in value

(appreciation) of a nation's currency, while outbound flows can cause a fall in value (depreciation).

82) Consider the following historical places :
1. Ajanta Caves 2. Lepakshi Temple 3. Sanchi Stupa
Which of the above places is *I* are also known for muhal paintings?
A) 1 only ***B)* 1 and 2 only** *C)* 1, 2 and 3 *D)* None
A mural is any piece of artwork painted or applied directly on a wall, ceiling or other large permanent surface. A particularly distinguishing characteristic of mural painting is that the architectural elements of the given space are harmoniously incorporated into the picture.
The history of Indian murals starts in ancient and early medieval times, from 2nd century BC to 8th – 10th century AD. There are known more than 20 locations around India containing murals from this period, mainly natural caves and rock-cut chambers. The highest achievements of this time are the caves of Ajanta, Bagh, Sittanavasal, Armamalai Cave (Tamil Nadu), Ravan Chhaya rock shelter, Kailasanatha temple in Ellora Caves.

Murals from this period depict mainly religious themes of Buddhist, Jain and Hindu religions. There are though also locations where paintings were made to adorn mundane premises, like the ancient theatre room in Jogimara Cave and possible royal hunting lodge circa 7th-century AD – Ravan Chhaya rock shelter.

83) With reference to the history of philosophical thought in India, consider the following statements regarding futnkhya school :
1. Sankhya does not accept the theory of rebirth or Transmigration of soul.
2. Sankhya holds that it is the self-knowledge that leads to liberation and not any exterior influence or agent.
Which of the statements given above is *I* are correct?
A) 1 only ***B)* 2 only** *C)* Both 1 and 2 *D)* Neither 1 nor 2

Samkhya, also Sankhya, is one of the six schools of classical Indian philosophy. **Sage Kapila** is traditionally considered as the founder of the Samkhya School. Sāṃkhya denies the final cause of Ishvara (God). Sāmkhya philosophy regards the universe as consisting of two realities; Puruṣa (consciousness) and prakriti (phenomenal realm of matter). Jiva is that state in which puruṣa is bonded to prakriti through the glue of desire, and the end of this bondage is moksha. Samkhya does not describe what happens after moksha and does not mention anything about Ishwara or God, because after liberation there is no essential distinction of individual and universal puruṣa.

84) In the context of India, which of the following principles is *I* are implied institutionally in the parliamentary ggvemUlent?
1. Members of the Cabinet are Members of the Parliament. -
2. Ministers hold the office till they enjoy confidence in the Parliament.
3. Cabinet is headed by the Head of the State.
Select the correct answer using the codes given below.
***A)* 1 and 2 only** *B)* 3 only *C)* 2 and 3 only *D)* 1, 2 and 3

85) The annual range of temperature in the interior of the continents is high as compared to coastal areas. What is/are the reason/ reasons?
1. Thermal difference between land and water
2. Variation in altitude between continents and oceans
3. Presence of strong winds in the interior
4. Heavy rains in the in terior as compared to coasts
Select the correct answer using the codes given below.
***A)* 1 only** *B)* 1 and 2 only *C)* 2 and 3 only *D)* 1, 2, 3 and 4
Every day the **land heats much faster than the sea, and every night the land cools faster.** When the land heats up, the air above it heats up as well. On the other hand, the ocean heats up and cools down relatively slowly. Therefore, areas near the ocean generally stay cooler during the day and have a more moderate temperature range than inland areas.
Heat capacity is the amount of energy required to raise the temperature of a substance by 1°C. This demonstrates that water has a higher heat capacity than sand. Likewise, larger bodies of water have higher heat capacities than smaller bodies. To compare substances directly, scientists often refer to the heat capacity per unit mass, known as the specific heat. The farther a region is from the ocean, the more extreme its climate is likely to be. **A continental summer is hotter than a coastal summer, and a continental winter is colder than a coastal winter.** Coastal climates tend to be more moderate. Some ocean currents bring cool water and some bring warm water, which also influences coastal climates.

86) Which of the following is/are the characteristic/ characteristics of Indian coal?
1. High ash content
2. Low sulphur content
3. Low ash fusion temperature
Select the correct answer using the codes given below.
***A)* 1 and 2 only** *B)* 2 only *C)* 1 and 3 only D) 1, 2 and 3
Coal is the most abundant fossil fuel resources in India. It is the key contributor to the Indian energy scenario. 55% of the current total commercial energy needs is met by coal. By 2024--25, the share of coal would come down marginally to about 50% of the total energy needs.
CHARACTERISTICS OF INDIAN COAL DEPOSITS
1. Limited Reserves of Coking Coal
2. High ash and low calorific value Thermal Coal.
3. Low sulphur (less than 0.5%), Low phosphorous content (less than 0.2%).
4. High Ash fusion temperature.
5. Less trace elements
6. Inertinite & Liptinite rich Combustion friendly Coal.

87) Which of the following statements
Regarding laterite soils of India are correct?
1. They are generally red in colour.
2. They are r ich in nitrogen and potash.
3. They are well-developed in Rajasthan and UP.
4 . Tapioca and cashew nuts grow well on these soils.
Select the correct answer using the codes given below.
A) 1, 2 and 3 *B)* 2, 3 and 4 ***C)* 1 and 4** *D)* 2 and 3 only
Laterite is a geological term and means literally a **rock.** The lateritic soils are enriched with **oxides of iron and aluminium,** under the conditions of **high rainfall with alternate dry and wet periods**. During rainfall **silica is leached downwards** and iron and aluminium oxides remains in the top layers.

Laterites are usually shallow and gravelly at higher lands, but are very deep loam to clay soils in the valleys where good paddy crops are produced. Higher landy soils are poor in nutrient status where as lower level soils are dark and richer in nutrients and organic matter. All lateritic soils are **poor in calcium, magnesium, nitrogen, phosphorus and potash**. They are generally **well drained and porous.** The soil reaction is **more on the acidic side.**

On laterites, **rice** is grown at lower elevations and at higher elevations, **tea, coffee, cinchona, rubber and cashewnut** can be grown under good soil management conditions. On the whole, laterites are **poor in fertility and readily respond to manuring and good cultivation.** It is found in hills of the Deccan, Karnataka, Kerala, Orissa, Assam and Meghalaya.

88) Consider the following statements :
1. Natural gas occurs in the Gondwana beds.
2 . Mica occurs in abundance in Kodarma.
3. Dharwars are famous for petroleum.
Which of the statements given above is/ are correct?
A)) 1 and 2 ***B)*****2 only** *C)*2 and 3 *D)* None

Petroleum Resources in India

Assam(Digboi, Naharkatiya, Badarpur, Masinpur and Pallharia), Gujarat (Ankleshwar, Khambat, Kalol), Mumbai High, Bassein (south of Mumbai High), etc.

Recently oil has been discovered in **Cauvery basin, Krishna and Godavary basin, Khambat basin**, etc.

Mica

Jharkhand (Hazaribagh, Giridih, Kodarma), Bihar (Goya, Bhagalpur), Andhra Pradesh (Guntur, Vizag, Kurnool), Rajasthan (Bhilwara, Udaipur, Jaipur).

Natural gas

A huge mass of India's natural gas production comes from the western offshore regions, particularly the **Mumbai High complex**. The onshore fields in **Assam, Andhra Pradesh, and Gujarat** states are also major producers of natural gas. Reliance Industries, a privately owned Indian company, will also have a bigger role in the natural gas sector as a result of a large natural gas find in 2002 in the **Krishna Godavari basin**. **ONGC and Oil India Ltd. (OIL)** is the leading companies with respect to production volume, while some foreign companies take part in upstream developments in joint-ventures and production sharing contracts. **The Gas Authority of India Ltd. (GAIL)** holds an effective control on natural gas transmission and allocation activities.

Two pipeline projects have been under consideration to bring pipeline gas to India for many years: the Iran-Pakistan-India (IPI) from Iran, and the Turkmenistan-Afghanistan-Pakistan-India (TAPI) from Turkmenistan.

89) Consider the following crops :
1. Cotton 2. Groundnut 3. Rice 4. Wheat
Which of these are Kharif crops?
A) 1 and 4 *B)* 2 and 3 only***C) 1, 2 and 3*** *D)* 2, 3 and 4

Kharif crop refers to the planting, cultivation and harvesting of any domesticated plant sown in the rainy (monsoon) season on the Asian subcontinent. Such crops are **planted for autumn harvest** and may also be called the summer or monsoon crop in India and Pakistan. Kharif crops are usually sown with the beginning of the first rains in July, during the south-west monsoon season. The Kharif crops are better known as the monsoon crops in Indian sub continent (India, Pakistan Sri Lanka, Nepal).

Common kharif crops

Millet Bajra	Peanut (groundnut)
Sorghum Jawar	Sunflower
Maize (corn)	Soybean
Mung bean (green gram)	**Rice - main kharif crop**
Sugarcane	Gwara
Guar	Paddy
Arhar or Tur Pigeon pea	Millets - jowar, bajra ragi
Urad (black gram)	Tea

90) "Climate is extreme, rainfall is scanty and the people used to be nomadic herders."
The above statement best describes which of the following regions?
*A)*African Savannah ***B)*****Central Asian Steppe**
*C)*North American Prairie *D)*Siberian Tundra

91) Consider the following statements
1. Inflation benefits the debtors.
2. Inflation benefits the bondholders.
Which of the statements given above is *fare* correct?
A)**1 only** *B)*2 only
*C)*Both 1 and 2 *D)*Neither 1 nor 2

Persistent rise in the general price level or "fall in the value of money" is called inflation. Have a look at some important points about Inflation.

- Price Level and purchasing power or value of money are inversely related.
- Changes in price level are measured in terms of whole-sale price (WPI) Index.
- WPI is released by the Department of Industrial Policy and Promotion.
- WPI is constructed weekly since 1942 and shifted to monthly in Nov. 2009.
- M.C.Singh is the Economic Advisor, Ministry of Committee and Industry.
- The present no. of commodities in WPI in 4385, it increased to **676 items.**
- With effect from Sep. 14 2010, new series of WPI base year **2004-05**, replaced **1993-94** base year series. Highest weight in this Index is given to manufactured items.
- **Abhijit Sen Committee** recommended this shift of base year.
- Services remain excluded from WPI.
- No. of Quotations selected for collecting price data for the items is 5482.
- Weights : Primary articles : 20.12%, (decrease from 22.03%) manufactured products : 64.97% (increase from 63.75%) for construction of WPI.
- Inflation first appeared in **2nd Plan.**

Types of Inflation :

- **Demand - Pull Inflation :** Aggregate demand is greater than aggregate supply. This results in Demand - Pull Inflation.
- **Cost - Push Inflation :** Increase in cost of production leads to cost-push inflation. Under this comes
  - Wage-push inflation
  - Profit-induced inflation
  - Increase in indirect taxes by Govt.

- Mixed Inflation : Schultz proposed this. The features of Demand - Pull and Cost -
- Push inflation are found in this

Stagflation is a sustained increase in price-level and rising unemployment.

Philips curve shows relationship between changes in wage rate and unemployment which is inverse.

Structural inflation refers to the inflation that arises as a result of supply inelasticity and structural rigidities in the industrial sector. **"Double deflation"** refers to recession occurring twice with a small gap in between.

5.5% inflation is comfort zone according to RBI.

92) Disguised unemployment generally means

A) Large number of people remain unemployed
B) Alternative employment is not available
***C)* Marginal productivity of labour is zero**
D) Productivity of workers is low

Characteristics of Disguised Unemployment

Nurkse mentions the following characteristics of disguised unemployment

1) The **marginal productivity of labor in disguised unemployment is zero.**

2) It is usually associated with family employment or self employed labor and not wage labor

3) It is not possible to identify personally disguisedly unemployed labor.

4) It is to be distinguished from seasonal unemployment caused by climate factors.

5) The disguised unemployment in **under developed countries** is to be distinguished from industrial under employment in the developed countries.

93) Consider the following statements :

1. The Council of Ministers in the Centre shall be collectively responsible to the Parliament.
2. The Union Ministers shall hold the office during the pleasure of the President of India.
3. The Prime Minister shall communicate to the President about the proposals for legislation.

Which of the statements givenabove is *I* are correct?

*A)*1 only ***B)*2 and 3 only**
*C)*1 and 3 only *D)*1, 2 and 3

94) Consider the following statements :

1. National Development Council is an organ of the Planning Commission.
2. The Economic and Social Planning is kept in the Concurrent List in the Constitution of India.
3 . The Constitution of India prescribes that Panchayats Should be assigned the task of preparation of plans for Economic development and social justice

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

*A)*1 only ***B)*2 and 3 only**
C) 1 and 3 only *D)*1, 2 and 3

95) Consider the following statements :

1. The Chairman and the Deputy Chairman of the Rajya Sabha are not the members of that House. ,
2. While the nominated members of the two Houses of the Parliment have no vuting right in the presidential election, they have the right to vote in the election of the Vice President.

Which of the statements given above is / are correct?

*A)*1 only ***B)*2 only**
*C)*Both 1 and 2 *D)*Neither 1 nor 2

Rajya Sabha

The Rajya Sabha (RS) or Council of States is the upper house of the Parliament of India. Rajya means "state" and Sabha means "assembly" in Sanskrit. Membership is limited to 250 members, 12 of whom are nominated by the President of India for their contributions to **art, literature, science, and social services.** The remainder of the body is elected by the state and territorial legislatures. Members sit for **six-year terms**, with **one third of the members retiring every two years**.

The Vice President of India (currently, Hamid Ansari) is the ex-officio Chairman of the Rajya Sabha, who presides over its sessions. The Deputy Chairman, who is elected from amongst the RS's members, takes care of the day-to-day matters of the house in the absence of the Chairman. The Rajya Sabha held its first sitting on **13 May 1952**

Election process of President

Whenever the office becomes vacant, the new President is chosen by an electoral college consisting of the elected members of both houses of Parliament (M.P.), the elected members of the State Legislative Assemblies (Vidhan Sabha) of all States and the elected members of the legislative assemblies (M.L.A.) of two Union Territories i.e., National Capital Territory (NCT) of Delhi and Union Territory of Puducherry.

The nomination of a candidate for election to the office of the President must be subscribed by at least **50 electors as proposers and 50 electors as seconders.** Each candidate has to make a security deposit of **15,000** in the Reserve Bank of India. The security deposit is liable to be forfeited in case the candidate fails to secure one-sixth of the votes polled.

The election is held in accordance to the system of Proportional representation by means of Single transferable vote method. The Voting takes place by secret ballot system. The manner of election of President is provided by **Article 55** of the Constitution.

96) With reference to National Legal Services Authority, consider the following statements :

1. Its objective is to provide free and competent legal services to the weaker sections of the society on the basis of equal opportunity.
2. It issues guidelines for the State Legal Services Authorities to implement the legal programmes and schemes throughout the country.

Which of the statements given above is / are correct?

*A)*1 only *B)*2 only
***C)*Both 1 and 2** *D)*Neither 1 nor 2

The National Legal Services Authority (NALSA) has been constituted under the **Legal Services Authorities Act, 1987** to provide free Legal Services to the weaker sections of the society and to organize Lok Adalats for amicable settlement of disputes. Justice Altamas Kabir, the Chief Justice of India is the **Patron-in-Chief** and Mr. Justice P. Sathasivam, Judge, Supreme Court of India is the Executive Chairperson of the Authority. NALSA is housed at New Delhi.

In every State, State Legal Services Authority has been constituted to give effect to the policies and directions of the NALSA and to give free legal services to the people and conduct Lok Adalats in the State. The State Legal

Services Authority is headed by the Chief Justice of the respective High Court who is the Patron-in-Chief of the State Legal Services Authority.

In every District, District Legal Services Authority has been constituted to implement Legal Services Programmes in the District. The District Legal Services Authority is situated in the District Courts Complex in every District and chaired by the District Judge of the respective district.

97) During a thunderstorm, the thunder in the skies is produced by the

1. Meeting of cumulonimbus clouds in the sky
2. Lightning that separates the nimbus clouds
3. Violent upward movement of air and water particles

Select the correct answer using the codes given below.

A) 1 only *B)* 2 and 3 ***C)*****1 and 3**

D) None of the above produces the thunder

Most thunderstorms occur from massively tall **cumulonimbus clouds.** The sun warms moist air near the earth's surface, and makes it rise. As this air moves upwards it cools and can condense to form cumulus clouds. The small, white fluffy cumulus clouds can group together and form one larger cumulonimbus cloud if there is enough rising warm air. If tall enough to reach the cooler air of the stratosphere, strong winds may widen the top of the cumulonimbus cloud. This may have the appearance of a top-heavy, flattened, anvil shape and is a good indicator that a thunderstorm is on its way.

The way thunderstorms form mean they are more common in the afternoons of tropical regions where there is more moist, warm air and more heat to make it rise. Most parts of the world have thunderstorms, especially mountainous areas, which help form cumulonimbus clouds with increased uplift of air. Only hot, dry deserts and extremely cold polar regions rarely see thunderstorms.

What makes thunder?

Thunder is the rumbling or crack of sound that can usually be heard from the sky during a storm. Thunder is caused because lightning heats up the air, to about 30 000ºC, causing it to expand quickly. The rumbling occurs as the sound passes through atmospheric layers at different temperatures.

How far away is a thunderstorm?

An estimation of how far away a storm is can me made by counting the number of seconds between a lightning flash and the start of thunder. If you divide this number by five, the answer is how many miles away the storm is from you.

THE LEGAL SERVICES AUTHORITIES ACT, 1987

An Act to constitute legal services authorities to provide free and competent legal services to the weaker sections of the society to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities, and to organise Lok Adalats to secure that the operation of the legal system promotes justice on a basis of equal opportunity.

98) Consider the following pairs :

Tribe State

1. Limboo (Limbu) Sikkim
2. Karbi Himachal Pradesh
3. Dongaria Kondh : Odisha
4. Banda : Tamil Nadu

Which of the above pairs are correctly matched?

A) **1 and 3 only** *B)* 2 and 4 only

C) I, 3 and 4 only *D)*1, *2,* 3 and 4

The **Yakthung or Limbu** tribes and clans belong to the Kirati nation or to the Kirat confederation. They are indigenous to the hill and mountainous regions of east Nepal between the Arun and Mechi rivers to as far as **Southern Tibet, Bhutan and Sikkim.**

The Karbis are the principal tribal community in the **Karbi Anglong district of Assam,** a district administered as per the provisions of the Sixth Schedule of the Constitution of India. They are mentioned as the **Mikir** in the Constitution Order of the Government of India. They prefer to call themselves Karbi, and sometimes **Arleng** (literally "man" in the Karbi language). The term Mikir is now not preferred and is considered to be derogatory. The closest meaning of mikir could said to be derived from "Mekar".

The **Kondha** are indigenous tribal groups of India. They live in **Odisha**, a state in Eastern India. Their highest concentration is found in the blocks of Rayagada, Kashipur, Kalyansinghpur, Bissamcuttack and Muniguda.

The **Bonda** (also known as Bondo Poraja or **Remo**) are an ancient tribe of people numbering approximately 12,000 (2011 census) who live in the isolated hill regions of the Malkangiri district of southwestern **Orissa**, India, near the **junction of the three states of Orissa, Chhattisgarh, and Andhra Pradesh.**

99) Consider the following liquid assets:

1. Demand deposits with the banks
2. Time deposits with the banks
3. Savings deposits with the banks
4. Currency

The correct sequence of these assets in the decreasing order of liquidity is

A) 1-4-3-2 *B)* 4-3-2-1 *C)*2-3-1-4 ***D)*** **4-1-3-2**

Savings deposits: It is a kind of safety vault for the people with idle cash. These deposits are kept under savings account. Deposits in this account earn interest at nominal rates and the banks are entitled to release deposits on demand by the deposit holder. In practice, the bank imposes a limit on the number and amount of withdrawals during a period. Cheque facilities are also given to the deposit holder.

Demand deposits: Demand deposits are kept under current account. The depositor can withdraw the money on demand. But, the account holder should specify the amount and the number of withdrawals. Banks do not pay any interest on these accounts. On the contrary, bank imposes service charges on maintaining these accounts.

Fixed deposits: These are also known as time deposits. The amount deposited cannot be withdrawn before the maturity period for which they have contracted. These deposits carry interest at higher rates varying with the length of the contract.

100) In the context of Indian economy, 'Open Market Operations' refers to

A) borrowing by scheduled banks from the RBI

B) lending by commercial banks to industry and trade

***C)* purchase and sale of government securities by the RBI**

D) None of the above

An open market operation is an activity by a central bank to **buy or sell government bonds on the open market**. A central bank uses them as the primary means of implementing **monetary policy**. The usual aim of open market operations is to manipulate the short term interest rate and the supply of base money in an economy, and thus indirectly **control the total money supply,** in effect expanding money or contracting the money supply. This involves meeting the demand of base money at the target interest rate by buying and selling government securities, or other financial instruments. Monetary targets, such as inflation, interest rates, or exchange rates, are used to guide this implementation.

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ALL THE VERY BEST

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