



# UPSC

## GENERAL STUDIES – 2013

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### 1. Ans(D)

#### **Explanation :**

Priority sector includes the Agriculture Finance, Small Enterprises, Retail Trade, Micro Credit, Education Loans and housing loans and all weaker sections.

### 2. Ans(D)

#### **Explanation :**

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.

### 3. Ans(A)

#### **Explanation :**

In General, The Economic Survey Documents says that the country can reap the demographic dividend by improving the Total Factor Productivity, a transition from agriculture to non-agriculture sectors such as manufacturing / service sector, and from unorganized sector to the organized. This can be done via skill development and that is why skill development is key to reaping the demographic dividend for a country like India.

### 4. Ans(A)

#### **Explanation**

Tribhanga 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. The techniques of movement are built around the two basic postures of the Chowk and the Tribhanga. The chowk is a position imitating a square - a very masculine stance with the weight of the body equally balanced. The tribhanga is a very feminine stance where the body is deflected at the neck, torso and the knees.

### 5. Ans(C)

#### **Explanation**

Annie Besant has become the head of the Theosophical Society, based in Adyar, Madras. It was a religious movement, founded by the Russian Madame Blavatsky, and not Besant herself. Theosophy preached a mixture of social reform, cultivation of occult practices, and celebration of ancient Hindu wisdom that predated Western civilization. The first and third statements are correct, you must know that the INC Session of 1917 was headed by Annie Besant at Calcutta.

### 6. Ans(C)

#### **Explanation :**

Ilbert Bill is named after Courtenay Peregrine Ilbert, who was appointed as legal adviser to the Council of India. The bill was introduced in 1883 by Viceroy Ripon, who actually desired to abolish the racial prejudice from the Indian Penal Code. Ripon had proposed an amendment for existing laws in the country and to allow Indian judges and magistrates the jurisdiction to try British offenders in criminal cases at the District level. It was never allowed before. So naturally, the Europeans living in India looked it as a Humiliation and the introduction of the bill led to intense opposition in Britain as well as India (by



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the British residents). So it was withdrawn but was reintroduced and enacted in 1884 in a severely compromised state.

### 7. Ans(D)

#### Explanation

Inflation: sustained increase in the price level. The main causes of inflation are either excess aggregate demand (economic growth too fast ). If there is a decrease in aggregate level of output, the money available in the economy will chase for goods / services which are now less available now. This may lead to inflation. An increase in the effective demand. If there is an increase in the effective demand, this would mean that too much money is chasing too few goods. This also may cause inflation.

### 8. Ans(B)

#### Explanation

It contains

1. SDRs
2. Gold
3. Foreign Currency Assets
4. Reserve Tranche Position in IMF

### 9. Ans (A)

#### Explanation :

If the Government borrows from the banks, the same effect will be seen as funds will be diverted from the Banking system and banks will have less money to lend.

Creating new money (this means borrows from RBI)

At the same time, if the government borrows from the central bank (RBI) by selling bonds, it receives new money from the central bank in exchange for the bonds. When this new money is spent, aggregate expenditure increases. Since, in this case, funds are not diverted from the private sector, there is no crowding out (i.e., there is no shortage of funds for investment in the private sector). Thus, the expansionary effect is greater than when the deficit is financed by borrowing from the public. This new money increases effective demand which, if there exist unemployed labour and idle production capacity in the economy may raise employment and output. Deficit financing undertaken for the purpose of building up useful capital during a short period of time, is likely to improve productivity and ultimately, increase the supply of consumption goods. And the increase in productivity can act as an anti-inflationary measure. The first statement: Repayment of Public Debt If the government pays back the money which is held in its bonds, it will increase the available liquidity in the system, it can cause inflation. There are several ways of repayment of public debt and government chooses carefully, whether it has to actually redeem the bonds or to choose other ways.

### 10. Ans (B)

#### Explanation

The supply is same, and there is more demand for money, obviously the interest rates will increase.

### 11. Ans(C)

**Explanation :** Lesser the Respiration



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### 12. Ans(A)

#### Explanation

#### Gharial

Gharial (*Gavialis gangeticus*) is the most uniquely evolved crocodilian in the world, a specialized, river-dwelling, fisheater. It is critically endangered and the critical condition of the Gharial reflects the endangered status of rivers. In India, we have only viable population in the National Chambal Sanctuary, spread across three states of Uttar Pradesh, Rajasthan and Madhya Pradesh in India. Small non-breeding populations exist in Son, Gandak, Hoogly and Ghagra rivers. Now extinct in Myanmar, Pakistan, Bhutan and Bangladesh.

#### Leatherback

Loggerhead, Hawksbill and Leatherback are common names of the Turtles found in India. Turtles are placed in reptiles. The five species are Green turtle (*Chelonia mydas*), Loggerhead (*Caretta caretta*), Olive Ridley (*Lepidochelys olivacea*), Hawksbill (*Eretmochelys imbricata*) and Leatherback (*Dermochelys coriacea*). Leatherback is Critically Endangered.

#### Barasingha

Swamp Deer or the Barasingha is vulnerable not endangered. It is found in isolated localities in northern and central India, and southwestern Nepal. It is extinct in Pakistan and Bangladesh.

### 13. Ans(C)

#### Explanation

Its is a friction theory. Which decreases the friction between the wheel and axle. Since the ball is a sphere, it only contacts the wheel and axle at a very small point, which helps it spin very smoothly.

### 14. Ans(C)

#### Explanation

#### Size of the sun at Dusk

The Sun appears smaller during noon but larger at dawn or more clearly at dusk. The apparent difference in the size comes from Optical Illusion. At dawn, Sun is seen with other objects on horizon and looks big. At noon, Sun is all alone in vast expanse of sky, so looks small. Therefore this is a correct option

#### Color of the Sun at Dawn

A halo is a ring around the moon or sun produced by refraction of light through a thin cloud of ice crystals. The halo had red colors on the inside of the ring shifting to blue on the outside. This is also a correct statement. The color effects such as red colors of halo, the reddish colored sunpillars etc. are optical illusions.

#### Twinkling of stars

Twinkling of stars is also an optical illusion caused by the refraction of light while moving through various layers of atmospheres.

#### Moon being visible at Dawn

Moon is appears larger than size. The statement is ambiguous so opted out.

#### Polestar being visible in the sky

Polestar is visible in the sky from northern latitudes. There is apparent motion of all stars in the night except Pole star. Of course this is an optical illusion. It is really us on Earth doing all the actual moving. But this statement does not say anything on that. This option is thus opted out.



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### 15. Ans(B)

Samkhya means Enumeration. The founder of the Sankhya school of Philosophy was Maharishi Kapil. There is some distinct feature of this philosophy:

- It strongly proponents Dualism. There are only two realities viz. Purusha and Prakriti.
- By Purusha they mean Consciousness and by Prakriti, they mean substance or realm of matter.
- Jiva or life is that state in which puruṣa is bonded to prakriti through the glue of desire, and the end of this bondage is moksha.
- The above three points lead to the conclusion that this school does not believe in the existence of God.
- At the same point , it 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. So what happens after Moksha is irrelevant thing for this school.
- But at the same time, though godless, the Sankhya believes in the doctrine of Karma and of transmigration of souls.
- Samkhya School of philosophy, the dualism consists of fundamental difference between consciousness and matter. It is different from the dualism in west, because in that the dualism differentiates between mind and body.
- According to this philosophy, the knowledge that leads to Liberation is Viveka Jnana (knowledge through discrimination). When a Jiva (individual self) identifies with Purusha and not with Prakriti (insentient principle - matter in its manifold expressions as names and forms) the individual becomes free.

### 16. Ans(A)

#### Explanation :

First one and second statement is correct. And third statement cannot be possible because president is a head of the state and not head of cabinet.

### 17. Ans(A)

#### Explanation

The first statement is correct as we all know. One major factor affecting the distribution of the temperature of Earth is distribution of Land and Oceans. Since there is more land in Northern Hemisphere and more waters in Southern hemisphere and there is a big difference between the specific heat of land and water; the loss of heat from the continents is bigger than the oceans. The continents get heated faster and get cooled faster in comparison to the Oceans. This is the reason that the temperatures of the Oceans are moderate while that of continents is extreme. The moderating effect on temperature of the land due to proximity of the seas is called Maritime influence. The increasing effect on temperature of the land at interior of the continents is called Continental Influence.

### 18. Ans(A)

#### Explanation :

Indian coals by their very nature are high in ash content but low in sulphur content. Indian coal is its high ash fusion temperature of about 1,500°C.



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### 19. Ans(C)

#### Explanation :

The first statement is correct. The second statement is partially correct (it should have been rich in Iron Oxide and Potash to be correct), The third statement is incorrect and the fourth statement is correct. I am hereby inserting a snippet from SGS 30:

- The Laterite soils develop in areas with high temperature and high rainfall and are common in the high altitude areas of Peninsular plateau.
- Laterite soil and is mainly found on the summits of the Western Ghats, Eastern Ghats, Rajmahal Hills,
- Vindhya, Satpuras and Malwa plateau, thus abundant in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh and the hilly areas of Odisha and Assam.
- Laterite soil represents intense leaching due to heavy rains, due to which the lime and silica are leached away, and soils rich in iron oxide and aluminium compound are left behind. Then, the Humus content of the soil is removed fast by bacteria that thrives well in high temperature.
- This implies that the Laterite soil is poor in organic matter, nitrogen, phosphate and calcium, while iron oxide and potash are in excess. Due to excess of Iron, laterites are not suitable for cultivation; however, application of manures and fertilisers are required for making the soils fertile for cultivation.
- Red Laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for tree crops like cashewnut.
- Laterite soils are widely cut as bricks for use in house construction.

### 20. Ans(B)

#### Explanation :

Gondwana beds is deposited with coal but not natural gas Mica occurs in kodarma is correct Koderma was considered as the mica capital of India. Koderma district and the Lokai-Indarwa area covers the southern part of Great Mica-Belt of Jharkhand, Bihar ,dhorakola and India. The rest of the two statements are incorrect. Dharwars in karnataka is not familiar for petrol.

### 21. Ans(C)

#### Explanation

Kharif Crops: Paddy, Jowar, Bajra, Maize, Ragi, Arhar(Tur), Moong, Urad, Cotton, Groundnut, Sunflower Seed, Soyabean Black, Sesamum, Nigerseed

Rabicrops: Wheat, Barley, Gram, Masur (Lentil), Rapeseed/Mustard, Safflower, Toria,

Other Crops: Copra, De-Husked Coconut, Jute, Sugarcane

### 22. Ans(B)

#### Explanation

Central Asian Steppe is the correct answer in above question.

Nomadic herding or pastoral Nomadism is a primitive subsistence activity, in which the herders rely on animals for food, clothing, shelter, tools and transport. They move from one place to another along with



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their livestock, depending on the amount and quality of pastures and water, thus there is an irregular pattern of movement.

Climate is extreme, rainfall is scanty and the people used to be nomadic herders. In my view, Siberian Tundra must be opted out even if you take it as "use to be" because In Tundra, the main economic activity is not Nomadic herding but is Hunting. Hunting and trapping reindeer have provided food and hides to the local population.

### 23. Ans(A)

#### Explanation

Clearly inflation benefits the debtors because money redistributed from creditors to debtors during inflation. Here Bond holders are lenders because they receive money return for their bonds, when they borrow but they are suffers and not benefiterers.

### 24. Ans(C)

#### Explanation

A group of a family are employed but if one member is withdrawn, there is no change in total output. For example suppose four people work in farm, producing 500 kg wheat. If one of them is removed then there is no change in the output(marginal productivity). Produces the same 500 kg wheat.

### 25. Ans(B)

### 26. Ans(B)

#### Explanation

The first statement as you all know is incorrect. Second statement is correct.

The very Preamble of the Constitution specifies the resolve, inter alia, to secure to all the citizens "JUSTICE, social, economic and political". The Directive Principles of State Policy enunciated in Part IV of the Constitution further spell out directions and principles for the State to secure a social order for the promotion of welfare of the people. In particular, Articles 38 to 42, 43A, and 45 to 48A enumerate responsibilities of the State for discharging which planning constitutes a pre-requisite. These roles cannot be performed by the States or the Union government in isolation from each other. This is the rationale for placing 'Economic and social planning' in the Concurrent List. The third statement is also correct.

### 27. Ans(B)

#### Explanation

The first statement is not correct because its talks about chairman as well as the deputy chairman. The Vice-President of India is ex-officio Chairman of Rajya Sabha. Rajya Sabha also chooses from amongst its members, a Deputy Chairman.

The second statement is correct

- President: Elected members of parliament (MPs from Lok Sabha as well as Rajya Sabha). Elected members of State legislative members, including that if NCT of Delhi and Pondicherry
- Vice President: Vice President is elected indirectly, by an electoral college consisting of members of both houses of the Parliament



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### 28. Ans(C)

#### Explanation

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. 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.

### 29. Ans (D)

#### Explanation :

Thunderstorms result from the rapid upward movement of warm, moist air. They can occur inside warm, moist air masses and at fronts. As the warm, moist air moves upward, it cools, condenses, and forms cumulonimbus clouds that can reach heights of over 20 km (12.45 miles). The thunderstorms are associated with the cumulonimbus clouds. These clouds normally form on warm sunny days but they can also be found on cold front. But this question is asking about the Thunder i.e. the sound produced. The lightning generates between 100 million and 1 billion volts of electricity and can heat the air to around 50K°F. The rapid expansion causes the shock waves. Thunder happens because the lightning would heat the air at huge temperatures and the air expands so fast that it makes a loud clap of thunder.

### 30. Ans(A)

#### Explanation

A collective term in use locally called Upajati. In india all the 29 states have populations of tribes and another way total of 645 district tribes. Such as in Andaman Nicobar island-andamanese-chariar,jarawas,nicobarese,onges. Andra pradesh-andh, bahata,bhil, Arunachal pradesh-abor, aka, apatani, Assam-chakma,dimasa,kachari,garo,khasi,Bihar-sur, baiga,banjara, Himachal pradesh-bot,bodh,gaddi,gujjar, Jammu and kashmir-bakarwal,balti, Odisha-bagata,baiga, Tamil nadu-adiyan, arandan, eravallan, eular etc.

### 31. Ans(D)

### 32. Ans(C)

#### Explanation

Open Mark Operations are conducted by the RBI via the sale/purchase of government securities from the market with the objective of adjust the rupee liquidity conditions in the economy.

### 33. Ans(D)

**Explanation** Forest rights act 2006 under the ministry of tribal affairs stated that gram sabha initiates the process of determine the nature and extent of forest rights. Declared in the official website forestrights.nic.in

### 34. Ans(C)

#### Explanation



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The fungus *Aspergillus flavus* produces toxic aflatoxin. This mould is found in soil, decaying vegetation, grains, cereals, hay, corn, peanuts, sweet potatoes, rice, and animal feed. It is believed that products contaminated with aflatoxin are carcinogenic to humans.

35. Ans(B)

36. Ans(B)

### Explanation

Electronic waste, e-waste, e-scrap, or waste electrical and electronic equipment (WEEE) describes discarded electrical or electronic devices.

Substances found in large quantities include epoxy resins, fibreglass, 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, chromium, cobalt, europium, gallium, germanium, gold, indium, lithium, manganese, nickel, niobium, palladium, platinum, rhodium, ruthenium, selenium, silver, tantalum, terbium, thorium, titanium, vanadium, and yttrium.

Plutonium is a radioactive waste and Heptachlor is an insecticide.

Hence correct answer is (b).

37. Ans( D)

**Explanation :** Its an chemical reaction that begins when compounds like sulfur dioxide and nitrogen dioxide are released into the air. These substances can rise very high into the atmosphere, where they mixer and react with water, oxygen, and other chemicals to form more acidic pollutants known as acid rain.

38. Ans(A)

### Explanation

A food chain is a linear consequence 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. Hence, option 1 is correct.

Food chain is the sequence of organisms through which the energy flows. If the species starts eating itself, then flow of energy will not proceed Hence option 2 is not correct. Food chain doesn't show "numbers" of each organism eaten by others. Hence option 3 is not correct.

39. Ans(D)

### Explanation

The first match is not correct because its Ramganga not Ganga which flows through Corbett national park. The second pair is not correct because Kaziranga is crisscrossed by four rivers – Brahmaputra, Diphlu, Mora Diphlu and Mora Dhansiri. Third is also not correct because it is the Kunthipuzha River that flows through the Silent Valley.





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### River flowing national parks in India.

#### Bandhavgarh National Park

Bandhavgarh used to be the hunting reserve of the royal family of Rewa, though its history goes back two millennia.

#### Corbett National Park

Nestling in the foothills of the Himalayas, the tiger reserve extends over an area of 1200 sq. km. The Ramganga River flows through the park and little forest streams tumble through the ravines. While dense stands of sal cloak the higher ridges, mixed deciduous forests are found throughout the park.

#### Gir National Park

Located in the south-west fringes of the Saurashtra Peninsula, The Gir National Park is a haven to about 300 Asiatic Lions which is their last surviving population. This area flanked with three unique and unusual reserves, the Nalsarovar Lake and Sanctuary; the Rann of Kutch and the Flamingo Islands which is home to the flamingo, make it a very interesting tourist spot.

#### Kanha National Park

The Kanha National Park is located in the Mandla district of Madhya Pradesh that covers nearly 2,000 sq. km. of undulating country. Elevations range from 450 to 900 metres. The Surpan River meanders through Kanha's central maidans-grasslands.

#### Kaziranga National Park

Situated on the Brahmaputra River, the Kaziranga National Park covers an area of about 430 sq. km. Its swamps and grasslands with tall thickets of elephant grass and patches of evergreen forest, support the largest number of rhino in the subcontinent.

### 40. Ans(B)

#### Explanation

Agaricus is the mushroom, many of whose species are edible. Spirogyra chiefly occurs in ponds, pools, ditches and similar other places. Because of slippery feel of the threads (plant body) it is often called pond-scum or water silk. It is not a bio fertilizer, instead if you use it; it would compete with the plants.

### 41. Ans(C)

#### Explanation

When coal is burnt, nitrogen helps to form oxides which may be released as flue gases and thereby pollute the atmosphere. It does not add the nitrogen to soil unless the oxides so created enter into the nitrogen cycle. Then, what remains after burning coal is Fly Ash. Fly Ash is devoid of nitrogen content. So, the second statement is not correct. Rest two are correct.

### 42. Ans(A)

#### Explanation

The lion tailed macaque is found in the Western Ghats being its natural habitat. The states are Kerala, Karnataka, Tamil Nadu.



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### 43. Ans(B)

#### Explanation

Simply cave shrines is called chaityas and residence of monks were called viharas. Please remember Chaitya Church , Vihara Monastery. Both early Chaityas and Viharas were made by woods and later stonecut Chaityas and Viharas were made. So we eliminate the second statement. Chaitya was a rectangular prayer hall with a stupa placed in the centre, the purpose was prayer. The Chaitya was divided into three parts, and had an apsidal ending, that is, a semicircular rear end, The central part of the hall (also called the nave) was separated from the two aisles by two rows of pillars, The chaityas also had polished interior walls, semicircular roofs and horse-shoe shaped windows called the Chaitya windows. Viharas were the residences of the monks.

### 44. Ans(C)

#### Explanation

Nirvana is an ancient Sanskrit term used in Indian religions to describe the profound peace of mind that is acquired with moksha (liberation).

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.

### 45. Ans(C)

#### Explanation

Governance is the act of governing, it relates to decisions that define expectations, grant power, or verify performance. It consists of either a separate process or part of decision making or leadership processes. In modern nation-states, these processes and systems are typically administered by a government.

Fundamental rights are justiciable whereas Directive principles of States Policy are not justiciable but they are “Fundamental in governance of the country” and it is the duty of the State to apply these principles in making laws.

### 46. Ans(C)

#### Explanation

The Indian Statutory Commission (Simon Commission) was a group of seven British Members of parliament of United kingdom that had been dispatched to India in 1928 to study constitutional reform in Britain’s most important colonial dependency.

None of the Indians were appointed in the Commission and the promise of appeasing the Indians seemed to be a bubble. When no Indian was included in the Commission, it was like depriving of their right to participate in the determination of the constitution of their own country, which resulted in the agitation of large number of people against the Commission.



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### 47. Ans(B)

#### Explanation

As a result of the failure of the Cripps mission, Gandhi's attitude towards the British changed radically. He was convinced that the presence of the British in India was an invitation to the Japanese to invade India. He suggested that the safety and interest of both Britain and India "lie in orderly and timely British withdrawal from India." He believed that with the withdrawal of the British, the danger of a Japanese invasion would disappear. Hence, Quit India Movement was started as a civil disobedience movement launched in India in August 1942 in response to Mohandas Gandhi's call for 'Satyagraha' (independence). The All-India Congress Committee proclaimed a mass protest demanding what Gandhi called "an orderly British withdrawal" from India.

Wavell Plan (1945) and Cabinet Mission Plan (1946) were introduced after Quit India Movement and Simon commission's Report was laid down in 1927.

### 48. Ans(A)

#### Explanation

Balance of payments (BoP) accounts are an accounting record of all monetary transactions between a country and the rest of the world. These transactions include payments for the country's exports and imports of goods, services, financial capital, and financial transfers. The BoP accounts summarize international transactions for a specific period, usually a year, and are prepared in a single currency, typically the domestic currency for the country concerned. Sources of funds for a nation, such as exports or the receipts of loans and investments, are recorded as positive or surplus items. Uses of funds, such as for imports or to invest in foreign countries, are recorded as negative or deficit items.

### 49. Ans(D)

#### Explanation

The Reserve Bank Act, 1934, and the Banking Regulation Act, 1949 have given the RBI wide powers of supervision and control over commercial and co-operative banks, relating to licensing and establishments, branch expansion, liquidity of their assets, management and methods of working, amalgamation, reconstruction, and liquidation. The RBI is authorised to carry out periodical inspections of the banks and to call for returns and necessary information from them. RBI controls liquidity through its various instruments like CRR, SLR. It controls the mergers of banks along with Competition Commission of India.

### 50. Ans(D)

#### Explanation

Bank rate, also referred to as the discount rate, is the rate of interest which a central bank charges on the loans and advances to a commercial bank.

Whenever a bank has a shortage of funds they can typically borrow it from the central bank based on the monetary policy of the country. An increase in Bank Rate means that the Banks will get loans from the Central Bank at higher rate which will increase the cost of funds for the banks forcing them to raise their lending rates. This is called Monetary tightening.



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### 51. Ans(A)

#### Explanation

Deficit financing is the practice in which a government spends more money than it receives as revenue, the difference being made up by borrowing or minting new funds.

It was with the advent of planned economic development, the experiment of deficit financing for financing economic development was adopted in India. In India most of the Government borrowings are done for economic development.

### 52. Ans(B)

#### Explanation

Government financing the budget deficit: That is if government spending (G) exceeds taxes revenues (T), then there is a deficit which can be financed by issuing government bonds (by borrowing money). If the government borrows money this will lead to interest rate increase and crowd out of some private investment spending.

Decreases in private spending reduce the expansionary impact of the deficit spending.

The government can also finance its budget deficit by creating new money: If the government finances its deficit spending by printing new money, then there is no crowding out of private spending. That this spending will increase without reducing consumption or investment. This kind of financing is a more expansionary way but more inflationary.

### 53. Ans(B)

#### Explanation :

Tatoos may cause diseases because tattoo instruments come in contact with blood and bodily fluids, if the instruments are used on more than one person without being sterilised. However, infection from tattooing in clean and modern tattoo studios employing single-use needles is rare.

- Infections that can theoretically be transmitted by the use of unsterilised tattoo equipment or contaminated ink include surface infections of the skin, hepatitis B, hepatitis C, tuberculosis, and HIV. However, no person is reported to have contracted HIV via a commercially-applied tattooing process.
- Tattoo inks have been described as "remarkably nonreactive histologically". However, some allergic reactions have been medically documented.
- Please note that few cases of burns on tatoos caused by MRI scans have been documented. These burns are largely on the designs containing large areas of black ink, since black commonly contains iron oxide; the MRI scanner causes the iron to heat up either by inducing an electrical current.

### 54. Ans(D)

#### Explanation

The Jain doctrine has so much stress on Karma, which is known by its uncompromising sincerity and steadfast faith in dealing with Karma through penance and austerities. This doctrine has no place for God's grace or God as the dispenser of fruits of deeds. This is how the Santhara is one of the most revered acts in Jainism. The second and third statement are also correct. The Jain doctrine says that the Karma particles cover the soul and to liberate the soul, that had to be ended.



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### 55. Ans(B)

#### Explanation

In ecology, a niche is a term describing the way of life of a species. Each species is thought to have a separate, unique niche. 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). The majority of species exist in a standard ecological niche.

### 56. Ans(A)

#### Explanation

Smog is a secondary pollutant, which has made up of Smoke and Fog. Traditionally, the smog has resulted from large amounts of coal burning in an area caused by a mixture of smoke and sulfur dioxide. Now-a-days, the Vehicle emissions and Industrial emissions that are acted on in the atmosphere by ultraviolet light from the sun to form secondary pollutants that also combine with the primary emissions to form photochemical smog.

### 57. Ans(D)

#### Explanation

Iron is present in the muscle in the form of Myoglobin. Myoglobin has the capacity to store oxygen. This oxygen is used for muscle contraction and for other immediate needs of the muscle. Most of you must have ignored this, so got trapped.

### 58. Ans(A)

### 59. Ans(C)

#### Explanation

Article 153 of the Constitution requires that there shall be a Governor for each State. One person can be appointed as Governor for two or more States. Article 154 vests the executive power of the State in the Governor. (a) is incorrect.

Judges in a High Court are appointed by the president of India in consultation with the Chief Justice of India and the governor of the state. (b) is incorrect.

The tenure of office of Governor must be guaranteed and should not be disturbed except for extremely compelling reasons and if any action is to be taken against him he must be given a reasonable opportunity for showing cause against the grounds on which he is sought to be removed. In case of such termination or resignation by the Governor, the Government should lay before both the Houses of parliament a statement explaining the circumstances leading to such removal or resignation, as the case may be; There is no such procedure laid down in the Constitution for the removal of a Governor from his/her post. Hence correct answer is (c).



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### 60. Ans(B)

#### Explanation

The Atlas Mountains is a mountain range across the north western stretch of Africa extending about 2,500 km (1,600 mi) through Morocco, Algeria, and Tunisia.

Abyssinian Plateau : Ethiopia

Guiana Highlands : Omicoo basin

Okavango basin : South-West Africa

### 61. Ans(C)

#### Explanation

The Barabar Caves are the oldest surviving rock-cut caves in India, mostly dating from the mauryan period (322-185 BCE), and some with Ashokan inscriptions, located in the Jehanabad District of Bihar, India, 24 km north of Gaya. These rock-cut chambers date back to the 3<sup>rd</sup> century BC, Maurya period, of Ashoka (r. 273 BC to 232 BC.) and his son, Dasaratha. Hence, statements 1 and 2 are not correct.

According to rituals, most of the crafting and architectural designs of the Ajanta Ellora Caves refer to various religions like Hindu and Jainism but major part for Ajanta and Ellora Caves describes the traditional view of Buddhism and life journey of Lord Gautam Buddha. Hence statement 3 is correct.

### 62. Ans(D)

#### Explanation

In 1953, scientists discovered the structure of DNA, and in 1972, researchers developed a method for cutting and splicing DNA. That method became known as recombinant DNA, or rDNA. Since then, researchers have learned how to move genetic material in the form of DNA from one plant or animal to another. But they cannot take DNA from animals to plants or from plants to animals. Hence, statement 2 is not correct.

Statement 1 is correct because Golden rice is developed by transferring carrot genes to rice. the new variety of rice contains Vitamin "A".

There is a strong evidence of vertical gene transfer, that is, gene transfer from microorganism to higher organism. For example, transfer of gene/s from bacteria to man or vice versa or from bacteria to a flowering plant. Hence statement 3 is also correct.

### 63. Ans(B)

#### Explanation :

In the second statement, I believe that the framer of the question might have forgotten that Huen Tsang had identified four ordeals viz. Fire, water, Weighing and Poison. If we go by this fact, statement 2 is ambiguous. Huen Tsang also refers to traders paying light duties at ferries and other barrier stations. So this is a correct statement. Regarding the first statement, you all know that he was looted .



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### 64. Ans(A)

#### Explanation

The Indian star tortoise (*Geochelone elegans*) is a species of tortoise found in dry areas and scrub forest in India and Sri Lanka. This species is quite popular in the exotic pet trade.

Monitor Lizards are large reptiles found in Africa and all across Asia, including the surrounding seas.

The pygmy hog (*Porcula salvania*) is an endangered species of small wild pig, previously spread across India, Nepal and Bhutan, but now only found in Assam.

Spider monkeys are found in tropical forests of Central and South America, from Southern Mexico to Brazil.

Hence option 4 is not correct whereas all the other options are correct.

### 65. Ans(C)

#### Explanation

Now a days, thousands of people are suffering from the toxic effects of arsenicals and fluorides in many countries all over the world. These two elements are recognized worldwide as the most serious inorganic contaminants in drinking water. Exposure to high levels of fluoride and arsenic is associated with lower IQ.

Uranium poisoning in Punjab first made news in March 2009, When a South African Board Certified Candidate Clinical metal Toxicologist, Carin Smit, visiting Faridkot city in Punjab, India, instrumental in having hair and urine samples taken (2008/9) of 149/53 children respectively, who affected with birth abnormalities including physical deformities, neurological and mental disorders.

Hence correct answer is (c).

Sorbitol, also known as glucitol, is a sugar alcohol and Formaldehyde is used in coating and laminating etc. Hence, both of them are not water pollutants.

### 66. Ans(C)

#### Explanation

The Constituent Assembly was set up while India was still under British rule, following negotiations between Indian leaders and members of the 1946 Cabinet Mission to India from the United Kingdom. The Assembly members were elected to it indirectly by the members of the individual provincial legislative assemblies, and initially included representatives for those provinces which came to form part of Pakistan, some of which are now within Bangladesh. The Constituent Assembly had 217 representatives, including 15 women.

The Interim Government of India was formed on 2 September 1946 from the newly-elected Constituent Assembly.

### 67. Ans(B)

#### Explanation

The formation of rainbow involves a series of physical phenomena – reflection, refraction, dispersion and total internal reflection. The occurrence of each of these is due to the interaction of light with air and water and the boundaries between them.



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A rainbow is an optical and meteorological phenomenon that is caused by reflection of light in water droplets in the Earth's atmosphere, resulting in a spectrum of light appearing in the sky. It takes the form of a multicoloured arc.

Rainbows caused by sunlight always appear in the section of sky directly opposite the sun.

In a "primary rainbow", the arc shows red on the outer part and violet on the inner side. This rainbow is caused by light being refracted while entering a droplet of water, then reflected inside on the back of the droplet and refracted again when leaving it.

In a double rainbow, a second arc is seen outside the primary arc, and has the order of its colours reversed, red facing toward the other one, in both rainbows. This second rainbow is caused by light reflecting twice inside water droplets

### 68. Ans(D)

#### Explanation

Amendment of the Constitution of India is the process of making changes to the nation's fundamental law or supreme law. A proposed amendment begins in parliament where it is introduced as a bill. It must then be approved by each House of Parliament. In each house, to amend the Constitution, a majority of the total membership of the House and a majority of not less than two-thirds of the members present and voting is required in each House of parliament. Certain amendments must then also be ratified by the legislatures of at least one-half of the states. Once all other stages have been completed, an amendment is bound to receive the assent of the President of India.

Hence, both the statements are wrong.

### 69. Ans(C)

#### Explanation

Article 88. "Rights of Ministers and Attorney-General as respects Houses.- Every Minister and the Attorney-General for India shall have the right to speak in, and otherwise to take part in the proceedings of either House, any joint sitting of the Houses, and any committee of Parliament of which he may be named a member, but shall not by virtue of this Article be entitled to vote."

### 70. Ans(C)

#### Explanation

Bagasse is often used as a primary fuel source for sugar mills; when burned in quantity, it produces sufficient heat energy to supply all the needs of a typical sugar mill, with energy to spare. Hence 1 is correct. Ethanol can be manufactured from variety of agricultural materials, both in starch and sugar category i.e. tapioca (cassava), grain, sugarcane and molasses and other by products materials from agricultural industry i.e. bagasse, rice straw, corn stalk, wastes from paper pulp industry and etc. For Thailand, the current suitable raw materials are tapioca and sugarcane (sugar residue or molasses) because they are plentiful and will not create any panic food shortage when being used as ethanol raw material. 1 ton of Molasses (Sugar residue) can produce 238 liters of ethanol. Hence statement 3 is also correct.





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### 71. Ans(D)

#### Explanation

At the December solstice, the north pole is tilted away from the sun and the area north of 23.4 degree (the arctic circle) receives no daylight. Meanwhile the out polar region is tilted towards the sun and receives permanent daylight, as the earth continues its orbit, the area exposed varies unit the position is reversed, and the it is the Antarctic region which experience total darkness and arctic which experience total daylight. At the mid point of the orbit (the march and September equinoxes)all areas receives the same amount of daylight and darkness.

### 72. Ans(A)

#### Explanation

Narmada and Tapi rivers flow in the geological faults (rifts) created between two ancient mountain ranges, 'Vindhya' & 'Satpura', when the Indian plate moved into the Eurasian plate. They arise in the Chota Nagpur plateau in the east of Deccan peninsula and the gradient is down into the Arabian Sea in the West; while in the Deccan (to the south) the gradient is from West (at the height of Western Ghats) to the East into the Bay of Bengal and there the rivers flow East. Hence statement 1 is correct. Even though statement 2 is correct, but that is not the reason for the Narmada to flow West.

### 73. Ans(C)

#### Explanation

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, including 1.75–2% frozen in glaciers, ice and snow, 0.7–0.8% as fresh groundwater and soil moisture, and less than 0.01% of it as surface water in lakes, swamps and rivers

### 74. Ans(A)

#### Explanation

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.

Loktak Lake, the largest freshwater (sweet) lake in northeast India, also called the only Floating lake in the world due to the floating phymdis (heterogeneous mass of vegetation, soil, and organic matters at various stages of decomposition) on it, is located near Moirang in Manipur state, India.

The Namdapha National Park is located in Changlang district of the Northeastern state of Arunachal Pradesh, near its border with Myanmar. The park is located between the Dapha bum range of the Mishmi Hills and the patkai range with a wide altitudinal range between 200 m asl and 4571 m asl.

### 75. Ans(D)

#### Explanation

The Earth has a restless landscape. It is dynamic and ever-changing. It is subject to changes by electromagnetic radiation in the form of solar energy (exogenic factor) that causes precipitation which leads to erosion and several other activities. The surface is subject to the episodic tectonic forcings we all



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know. The gravitation force of earth itself and the force exerted by Moon and Sun cause minor changes in the Earth Crust on daily basis apart from generating the ebbs and tides. Rotation of Earth causes Coriolis Force that is responsible for many things. Revolution of Earth is there to make changes in seasons due to Because of the axial tilt of the Earth.

### 76. Ans(D)

#### Explanation

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 National Development Council (NDC) 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 sphere, 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. The idea of creation of Zonal Councils was mooted by Jawaharlal Nehru during the course of debate of State Re Hence, correct answer is (d).

### 77. Ans(A)

#### Explanation

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.

### 78. Ans(D)

#### Explanation

Article 253 (Legislation for giving effect to international agreements): Notwithstanding anything in the foregoing provisions of this Chapter, Parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body it should be noted that the consent of the state is not needed.

### 79. Ans(C)

#### Explanation

Primary succession is the gradual growth of an ecosystem over a longer period. It looks like: lichen – grasses – trees. In contrast, secondary succession occurs on substrate that previously supported vegetation before an ecological disturbance from smaller things like floods, hurricanes, tornadoes, and volcanic eruptions which destroyed the plant life.

But trees replacing grass doesn't always happen with grasslands:

Look at the following



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Grass ecosystems are an early stage of succession in regions where the nature ecosystems are forests. However, grass ecosystems are climax ecosystems in grassland regions, where there is not enough rainfall to support a forest.

Ecological succession of a grassland is desert.

Two factors for evolution of temperate grassland biome, 1) Extreme continental climate with limited supply of water due to low rainfall, 2) human activities mainly burning of vegetation.

Hence, the correct answer should be (c).

### 80. Ans(C)

#### Explanation

Producer Biomass productivity (gC/m<sup>2</sup>/yr)

Swamps and Marshes 2,500

Coral reefs 2,000

Algal beds 2,000

River estuaries 1,800

Temperate forests 1,250

Cultivated lands 650

Tundras 140

Open ocean 125

### 81. Ans(B)

#### Explanation

Contour ploughing or contour farming or contour bunding is the farming practice of flowing or planting across a slope following its elevation contour lines. These contour line creates the water break which reduces the formation of rills and gullies during times of heavy water run off which is major cause of soil erosion. Bunds are built on plains and across streams and small rivers. This reduces the speed of flowing water and soil erosion.

### 82. Ans(C)

#### Explanation

When raindrops fall from the sky, they are round like tiny balls. To form a rainbow, the sun must shine on the raindrops. When a ray of sunlight reaches a raindrop, some of the light enters the drop and refracts. This means that the ray bends at the surface of the drop and changes its direction. Different colors of light refract in slightly different directions. This is how the white sunlight, which is really a combination of red, orange, yellow, green, blue and violet light, gets separated into different colors. Then each colored ray of light takes its own path inside the raindrop and exits in a different direction. Therefore, when you look up at the rain in the sky, each color of light comes at you from a different direction, and you see a rainbow.

In contrast to the simple round shape of raindrops, snowflakes are six-sided and flat. When sunlight shines on snowflakes tumbling and falling through the air, the many different surfaces of the snowflakes cause the light to be refracted and reflected in many different directions, and the light is too scattered to form a rainbow. However, in special situations snowflakes can create interesting and beautiful displays with sunlight. Parahelia, sometimes called "mock suns" or "sun dogs," are bright spots that appear to the



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left and right of the sun. They form when rays of sunlight refract through thin plate-like snowflakes that are falling flat through calm air. Often each bright spot has a reddish side and a bluish side.

In a double rainbow, a second arc may be seen above and outside the primary arc, and has the order of its colors reversed (red faces inward toward the other rainbow, in both rainbows). This second rainbow is caused by light reflecting twice inside water droplets.

### 83. Ans(C)

#### Explanation

The Indian Parliament passed the PESA Act in 1996. The prime objective was establishment of tribal-self rule in the Scheduled Areas. PESA Act recognizes traditional rights of adivasis such as ownership of minor forest produce, planning and management of minor water bodies, prevention of alienation of tribal lands and other such issues. It is an act which if implemented would address some of the most intractable problems of exploitation and marginalisation of adivasis.

### 84. Ans(C)

#### Explanation

Roots are the principal water-absorbing organs of a plant. There are three primary functions of roots: 1) to anchor the plant to a substrate, 2) to absorb water and dissolved minerals, and 3) to store food reserves.

When a seedling or plant is transplanted, the young roots along with the root hair are cut/damaged/destroyed/rendered useless so transplanted seedlings do not grow well. When seedlings are removed from its original position, lesser the damage to the roots greater are the chances of its survival.

### 85. Ans(C)

#### Explanation

Capital formation: A term used to describe net capital accumulation during an accounting period. Capital formation refers to net additions of capital stock such as equipment, buildings and other intermediate goods. A nation uses capital stock in combination with labour to provide services and produce goods; an increase in this capital stock is known as capital formation.

Generally, the higher the capital formation of an economy, the faster an economy can grow its aggregate income. Increasing an economy's capital stock also increases its capacity for production, which means an economy can produce more.

### 86. Ans(A)

#### Explanation

The first statement is correct. Second statement is incorrect because to culture virus in laboratory you need living media such as Bacteriophages. The Viruses can be transmitted by biological vectors as well as the mechanical vectors.

### 87. Ans(D)

#### Explanation

The plants of the Desert habitat area have adapted to its dry, hot extremes by using both physical and behavioural mechanisms. The vegetation of hot desert climate is xerophytic type which has special



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characteristics to withstand very high rate of evaporation. They have long roots, thick barks, waxy leaves, thorns and little leaves. Hence all the options given in the question are correct.

### 88. Ans(A)

#### Explanation

Name	Relative strength
Gravitational force	10-39
Weak nuclear force	10-13
Electromagnetic force	10-2
Strong nuclear force	1

Hence, gravity is the weakest of the four.

Whereas all other options (b), (c) and (d) are correct. Weak nuclear forces are responsible for the existence and structure of atomic nuclei including radioactivity and nuclear fusion whereas Strong nuclear force holds protons and neutrons inside the nucleus of an atom which is even 100 times stronger than electromagnetism.

### 89. Ans(A)

### 90. Ans(D)

### 91. Ans(B)

### 92. Ans(D)

#### Explanation

National income measures the money value of the flow of output of goods and services produced within an economy over a period of time.

### 93. Ans(C)

#### Explanation

- ❖ RRBs were set up to take banking services to the door steps of rural masses. These banks were originally intended to provide institutional credit to the weaker sections of the society called "target groups". From April 1997, the concept of priority sector lending was made applicable to RRBs.
- ❖ The long term credit needs of the agricultural sector are met by a type of co-operative institutions known as Land Development Banks.
- ❖ National Bank for Agriculture and Rural Development came into existence on 12 July, 1982. NABARD was established for providing credit for promotion of agriculture, small scale industries, cottage and village industries, handicrafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity at rural areas. But it provides credit assistance to rural household indirectly i.e., through some other financial intermediaries.



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### 94. Ans(B)

#### Explanation

- The Comptroller and Auditor General is the “friend, philosopher and guide” of the Committee. He attends the sittings of the Committee and assists it in its deliberations.
- The Public Account Committee carries out the examination of the Appropriation Accounts relating to the Railways, Defence Services, P&T Department and other Civil Ministries of the Government of India and Reports of the Comptroller and Auditor-General of India thereon as also the Reports of the Comptroller and Auditor- General on Revenue Receipts mainly form the basis of the deliberation of the Committee.
- The Public Accounts Committee consists of not more than 22 members comprising 15 members elected by Lok Sabha every year from amongst its members.

### 95. Ans(B)

#### Explanation

Dadu Dayal (1544-1603) was a sant from Gujarat, India. Guru Nanak (15 April 1469 – 22 Septemeber 1539) is the founder of the religion of Sikhism and is the first of the ten Sikh Gurus, the eleventh guru being the living Guru, Guru Grant Sahib.

Tyagraja (May 4, 1767 – January 6, 1847), was one of the greatest composers of Carnatic music or Indian classical music. Lodi Dynasty fell in 1526 at the Battle of Panipat and at that time only Guru Nanak was preached. Hence only statement 2 is correct because Dadu Dayal and Tyagraja were not even born at that time.

### 96. Ans(B)

#### Explanation

Decomposers (or saprotrophs) are organisms that break down dead or decaying organisms, and in doing so carry out the natural process of decomposition.

Bacteria are important decomposers; they are widely distributed and can break down just about any type of organic matter. 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. Various types of worms are also considered decomposers as they act as scavengers.

Viruses are not decomposers.

### 97. Ans( C)

#### Explanation

Most important fishing grounds in the world are located in shallow water close to the land where there is mixing of cold and warm currents from different regions. The major fishing grounds on earth comprise the seas north of Japan where the warm Kuroshio Current meets the cold Kamchatka Current; the Grand Banks off Newfoundland where the North Atlantic Drift encounters the cold Labrador Current; and the sea around Iceland where the North Atlantic Drift meets the East Greenland Current.



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## 98. Ans(D)

### Explanation

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## 99. Ans(B)

### Explanation

In macroeconomics and international finance, 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.

Capital Account = FDI + Portfolio Investment + Other investment + Reserve Account.

Private emittances are included in Current Account.

## 100. Ans(B)

### Explanation

Lepakshi temple is a good repository of mural paintings of the Vijayanagar Kings. Sanchi is known for sculpture whose designs are similarly painted in Ajanta Caves murals.

## Vetri IAS Study Circle

F - Block 37/38, 2nd Avenue Main Road, Chinthamani,

Anna Nagar(E), Chennai – 600102

044 -26265326, 9500005522, 9600124042