



# UPSC

## GENERAL STUDIES – 2010

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1. **Ans: (b)**

**Explanation:**

**Some important aspects** of the karaschi session of resolutions were: Basic civil rights of freedom of speech, Freedom of Press, Freedom of assembly, Freedom of association, Equality before law Elections on the basis of Universal Adult Franchise Free and compulsory primary education. Substantial reduction in rent and taxes Better conditions for workers including a living wage, limited hours of work. Protection of women and peasants Government ownership or control of key industries, mines, and transport. Protection of Minorities. Sardar Vallabhai Patel presided over the Karachi session of Indian National Congress in 1931. The resolutions adopted were:

- Fundamental Right and Economic Plan Programme were formulated by Jawaharlal Nehru and adopted in this session.
- It admitted Gandhi-Irwin Pact as Gandhi was allowed to attend the second Round Table Conference in London.

2. **Ans: (c)**

**Explanation:**

Congress moved toward the Quit India movement whereby it refused to cooperate in the war effort, while the British imprisoned practically entire Congress leadership for the duration of the war. The Cripps Mission was an attempt in late March, 1942 by the British Government to secure Indian Cooperation and support for their efforts in World War II. The Mission was headed by Sir Stafford Cripps, a senior wing politician and government minister in the war (WAR) cabinet of Prime Minister Winston Churchill. Pandit Jawaharlal Nehru and Maulana Azad were official congress negotiators with Cripps Mission.

Cripps proposal contained within them provision which could divide India into hundred of Independent pieces. It was for this reason that ‘Gandhi opposed’ the Declaration and Urged the Working Committee to reject ‘the post dated cheque’.

3. **Ans: (a)**

**Explanation:**

Digestion typically begins in the stomach when pepsinogen is converted to pepsin by the action of hydrochloric acid and continued by trypsin and chymotrypsin in the intestine. Dietary protein is degraded into amino acids and their derivatives are there absorbed by the gastrointestinal tract.

4. **Ans: (b)**

**Explanation:**

Evolution of sharks can be traced to the Silurian period about 450 million years ago. The first proto turtles are believed to have existed in the early Triassic period of the Mesozoic era, about 220 million years ago. The sea Otter is a relatively new comer to a marine existence approximately 5 million years ago.

Hence from the point of view of evolution of living organisms, the correct sequence of evolution is Shark → Tortoise → Otter

5. **Ans: (c)**

**Explanation:**

**Hepatitis B** is an infectious disease caused by the hepatitis B virus (HBV) which affects the liver. It can cause both acute and chronic infections. Many people have no symptoms during the initial infection. Some develop a rapid onset of sickness with vomiting, yellow skin, feeling tired, dark urine and abdominal pain.



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Often these symptoms last a few weeks and rarely does the initial infection result in death. **Hepatitis a,b,c,d,e** is a liver diseases caused by the hepatitis different virus a,b,c,d,e. Hepatitis B is nearly 100 times more infectious than HIV. Chronic Hepatitis B infection cause 80% of all primary liver cancer worldwide. Hence both statements are true. Hence correct option is C.

**6. Ans: (b)**

**Explanation:**

Haemoglobin's oxygen-binding capacity is decreased in the presence of carbon monoxide because both gases compete for the same binding sites on haemoglobin. Carbon monoxide has 200 times much higher affinity for haemoglobin than oxygen does. In carbon monoxide poisoning oxygen cannot be transported and released to body tissues thus resulting in hypoxia. When haemoglobin combines with carbon monoxide forms a very bright red compound called carboxy haemoglobin, which may cause the skin of CO (Carbon monoxide) poisoning victims to appear pink in death, instead of white or blue.

**7. Ans: (a)**

**Explanation:**

Those who are more at risk from swine flu are people with chronic lung disease including asthma, heart disease, kidney disease, liver disease, neurological disease, suppressed immune system, diabetes, pregnant women, people aged 65 or older and young children under five. Antibiotics are for bacteria, not for virus. Swine flu is a virus. Both bacteria and viruses are 'germs' but they are different types of germs that need different type of medicines to get rid of them. There are antiviral medicines that work to kill viruses or weaken them. Sometimes antibiotics are given to people who have the flu. This is done if they get or it is expected that they may get a secondary infection by bacteria.

Transmission of the virus from pigs to human is not common and does not always lead to human influenza, often resulting only in the production of antibodies in the blood. If transmission does cause human influenza, it is called zoonotic swine flu. People with regular exposure to pigs are of increased risk to swine flu infection.

**8. Ans: (a)**

**Explanation:**

According to European Study Group on Heterosexual Transmission of HIV, overall 12% male partners and 20% female partners were infected with HIV, suggesting that male to female transmission is 1-9 times more effective than female to male transmission. Heterosexual HIV transmission more likely with sexually transmitted infections.

Prenatal transmission of HIV refers to transmission during pregnancy as during labour and delivery. Most babies born to HIV positive mothers do not get HIV, but some do, a baby can get HIV from its mother. Breast feeding can increase the risk of HIV. The longer a child is breast fed by an HIV positive mother, the higher the risk of HIV infection.

HIV infection through blood transfusion has higher probability than by infected needle. On a needle the virus stays fresh till the blood is moist and it has to be injected immediately on a person. But in the not climates the virus cannot survive outside for long.



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9. Ans: (a)

**Explanation:**

Recent climate talks have revealed that developing countries have been demanding technology transfer from developed countries because in case of binding targets imposed on them, they will find it difficult to develop their nascent economies. They themselves lack state of the art clean technologies. In recent times, India has other priorities like poverty elimination and infrastructure. In comparison to developed nations, India cannot invest huge funds in research and development.

10. Ans: (a)

**Explanation:**

The Commonwealth has no charter, treaty or constitution. Conferences of British and colonial Prime Ministers had occurred periodically since 1887, leading to the creation of the imperial in 1911. The formal organization of commonwealth developed from Imperial conference.

11. Ans: (b)

**Explanation:**

If statement 4 of above is true, then statement is definitely true. Because if some colours are not pleasant then some colours are pleasant.

12. Ans: (a)

**Explanation:**

The European Council is the institution of EU responsible for defining general political direction and priorities of Union.

The European Commission is the executive body of European Union which is responsible for proposing legislation.

13. Ans: (d)

Net sown area is 46% and total forest area is 22.96%

14. Ans: (c)

**Explanation:**

SBI, UTI, LIC, AMCs to act as fund managers. These are the assets management companies appointed as the fund managers by Government of India. About 75% of Income from the fund will go to social sector.

15. Ans: (b)

**Explanation:**

Commission Future Trading is regulated by the Forward Markets Commission. Forward Markets Commission is the regulator of the Commodity Future Market. For Financial markets, the role is performed by the SEBI. Forward market commission is the cheif regulator of commodity future markets in India.

16. Ans: (a)

**Explanation:**

A **limited liability partnership (LLP)** is a partnership in which some or all partners (depending on the jurisdiction) have limited liabilities. It therefore exhibits elements of partnerships and corporations.<sup>[1]</sup> In an LLP, one partner is not responsible or liable for another partner's misconduct or negligence. This is an important difference from the traditional unlimited partnership under the Partnership Act 1890, in which each partner has joint and several liability. In an LLP, some partners have a form of limited



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liability similar to that of the shareholders of a corporation. Maximum limit of partners is 20 in case of partnership firm. In L.L.P. firm, partnership and management need not be separate and internal government may be decided by mutual agreement among partners. It is also corporate body with perpetual succession.

**17. Ans: (c)**

**Explanation:**

The Banking Ombudsman is appointed by the RBI and Appellate Authority is vested with a Deputy Governor of the RBI. One can also explore any other resource and remedies available to him as per the law. The bank also has the option to file an appeal before the appellate authority under the scheme. The Banking Ombudsman can consider complains from non-Resident Indians having accounts in India and the service provided by the banking ombudsman is free of any fee.

**18. Ans: (c)**

**Explanation:**

All of these can be considered as steps taken for financial inclusion. In India Nationalization targeted expansion of bank branches in rural areas and also a control on concentration of economic powers in the hands of few. RRBs were planned to cater to the needs of rural areas.

**19. Ans: (a)**

**Explanation:**

In march 1758, Raghunath Rao, the Maratha leader, crossed into the Punjab and drove away prince Timur, who was the Ahmad Shah Abdali's son and agent out of the Punjab. The following months saw the Maratha Authority extending upto the attack. The Maratha appointed Adina Beg khan as Governor of the Punjab on his agreeing to pay an annual tribute of 75 lakhs of Rupees. On Adina's death, Sabaji Sindhia assumed charge as Governor of the Punjab, perhaps, it was Raghunath Rao's mistake to advance into Punjab without crushing Najib-ud-Daulah or befriending Shuja-ud-Daulah of Oudh. The Maratha conquest of the Punjab from the Afghans was a direct challenge to Abdali and the latter decided to accept it.

**20. Ans: (a)**

**Explanation:**

Faxian, Xuanzang, Yijing, Huisheng, and Song Yun, began to speak of a decline of the Buddhist *sangha*, especially in the wake of the White Hun invasion.<sup>[2]</sup> Decline continued after the fall of the Pala dynasty in the 12th century CE and the gradual Muslim conquest in the Indian subcontinent. The first European powers to occupy Pondicherry were the Portuguese. The first Europeans to exert power in India were the Portuguese who sailed from Southern Africa in search of the trade goods of the East such as pepper, cloves, silk. When they reached the coast of India and the islands further east they found their weapons technology and lack of moral scruples gave them at advantage over the local regimes they found. They began to occupy parts such as Goa in India and towns in Indonesia.

**21. Ans: (a)**

**Explanation:**

Buddhism start declining in India in the early medieval times because Buddha was by that time considered as one of the incarnations of Vishnu and thus became a part of Vaishnavism. Few in Vedas from central Asia till the time of last Gupta king adopted Buyddhist religion. The kings of the Gupta dynasty were not opposed to Buddhism even though they supported Brahmanical faith.



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22. Ans: (c)

**Explanation:**

Commercial Banks are not directly engage in capital market. Capital market is the primary concern of investment banks. They act as executors and trustees of wills of their clients.

23. Ans: (c)

**Explanation:**

Excise duty rates have been gradually lowered in the past few years as a measure to help the produce more competitive in the world market by reduction in the price. At the same time with expansion of services in the service tax net and growing economy and income, other tax revenues have improved.

24. Ans: (b)

**Explanation:**

State Finance Commission makes recommendation to the Governor of a state as to the principles for determine the taxes and duties which may be appropriated by the Pachayats in that particular state. According to Article 243-I of Indian Constitution, the Governor of a state shall constitute a Finance commission to review the financial position of the Panchayats and to make recommendations to the Governor as to

- (a) The principles which should govern the distribution between the State and the Panchayat of the net proceeds of the taxes, duties, toll and fees liveable by the state.
- (b) The determination of the taxes, duties, tools and fees which may be assigned to or appropriated by the Panchayat.

25. Ans: (a)

**Explanation:**

The tax was introduced as STT and CTT which are central taxes. Taxes on transactions in Stock Exchanges and Futures Markets are levied by the Union Government. Hence, only statement (1) is true.

26. Ans: (c)

**Explanation:**

In India, taxes on transactions in Stock Exchanges and Futures Markets are levied by the Union. The tax was introduced as STT and CTT which are central taxes.

27. Ans: (c)

**Explanation:**

The Union Government fixes the Statutory Minimum Price of sugarcane for each sugar season. Sugar and sugarcane are essential commodities under the Essential Commodities Act.

28. Ans: (b)

**Explanation:**

Gross Domestic Product (**GDP**) is the broadest quantitative measure of a nation's total economic activity. More specifically, **GDP** represents the monetary value of all goods and services produced within a nation's geographic borders over a specified period of time. The Gross Domestic Product (GDP) in 2000-01 was ₹ 19.2 lacks crore which increased to ₹ 58 lacks crore in 2009-10, with 6.7% growth rate in 2009-10. It is nearly three times the GDP in 2000-01. With the rapid growth of the private sector after 1991, the share of public sector in GDP has gone down.



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29. Ans: (d)

**Explanation:**

All above mentioned (soot, sulphur hexafluoride, water vapour) contribute to the warming up of the atmosphere. Soot mostly from diesel engines is blocking snow and ice reflecting sunlight, which is contributing to near worldwide melting of ice reflecting sunlight, which is contributing to near worldwide melting of ice and as much as a quarter of all observed global warming.

30. Ans: (a)

**Explanation:**

The Development Association (IDA) is the part of the World Bank group. It is an agency administrated by the International Bank for reconstruction and development to provide assistance on concessionary terms to the poorest countries.

31. Ans: (c)

**Explanation:**

- (A) The **International Bank for Reconstruction and Development (IBRD)** is an international financial institution that offers loans to middle-income developing countries. The IBRD is the first of five member institutions that compose the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1944 with the mission of financing the reconstruction of European nations devastated by World War II. The IBRD and its concession lending arm, the International Development Association, are collectively known as the World Bank as they share the same leadership and staff.
- (B) **International fund for agricultural development** is a specialized agency of the United Nations dedicated to eradicating rural poverty in developing countries. It was established as an international financial institution in 1977 as one of the major outcomes of the 1974 World Food Conference. Seventy-five percent of the world's poor live in rural areas in developing countries, yet only 4% of official development assistance goes to agriculture. The strategic policy of IFAD is detailed in Strategic Framework for IFAD 2011–2015: Enabling the Rural Poor to Overcome Poverty. Its headquarters is in Rome, Italy, and is a member of the United Nations Development Group.
- (C) The **United Nations Development Programme (UNDP)** is the United Nations global development network. Headquartered in New York City, UNDP advocates for change and connects countries to knowledge, experience and resources to help people build a better life. It provides expert advice, training, and grant support to developing countries, with increasing emphasis on assistance to the least developed countries.
- (D) The **United Nations Industrial Development Organization (UNIDO)**, French/ Spanish/ Portuguese acronym **ONUDI**, is a specialized agency in the United Nations system, headquartered in Vienna, Austria. The Organization's primary objective is the promotion and acceleration of industrial development in developing countries and countries with economies in transition and the promotion of international industrial cooperation. It is also a member of the United Nations Development Group Iron makes oxides on chemical weathering, so as to give red colour to the soil.

32. Ans: (b)

**Explanation:**

Around 98% of coal reserves of India are found in Gondwana rock system.



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33. Ans: (d)

**Explanation:**

Strait of Malacca is situated in between Malay Peninsula and Sumatra (Indonesia) and Singapore is situated on the tip of Malay Peninsula. So if one travels through the Strait of Malacca, Singapore will come across.

The **significant coal seams** have been found in the rocks of the **Damuda Group of Lower Gondwana** age. Coal seams are found within the rocks of two formations, viz. the Lower or Barakar Coal Measures and the Upper or Raniganj Coal Measures. Geographically the rocks of the Barakar Formation are more extensive and the coal is superior in quality and more in quantity than the coals of the Raniganj Formation.

The **Lower Gondwana coalfields** are scattered in the provinces of **Andhra Pradesh, Assam, Orissa, West Bengal, Bihar Madhya Pradesh, Uttar Pradesh, Maharashtra and Sikki**

Although Upper **Gondwana coals have been found in Gujarat (Ghuneru coalfield of Kachchh), Madhya Pradesh (Hiran river valley coalfield of Jabalpur district)** and Maharashtra (Kota and Chikiala coalfields), but in the field of production, the Lower Gondwana coalfields are the most important. About 98 per cent of India's total coal production comes from the Lower Gondwana coalfields. Of these coalfields, the Jharia and Raniganj coalfields are the most important, as far as the production is concerned.

34. Ans : (d)

**Explanation:**

Luni is an endorheic river which makes an inward flowing pattern in semi-arid zone of Rajasthan.

35. Ans: (b)

**Explanation:**

Govind sagar dam is on Satluj(HP) near Punjab border. Kolleru lake is located between Krishna and Godavari river valleys and serves as a natural flood balancing reservoir for both the rivers. River Budaneru (sorrow of Vijayawada) drains into Kolleru lake. Ukai reservoir on Tapi river (Gujarat) near Maharastra border. Wular lake is on river Jhelum.

36. Ans: (a)

**Explanation:**

Mediterranean climatic type is associated with all of the above features and is specially famous for winter rains. The term **Mediterranean climate** is one typical of the Mediterranean Basin and is a particular variety of subtropical climate. The lands around the Mediterranean Sea form the largest area where this climate type is found, but it also prevails in much of California, in parts of Western and South Australia, in southwestern South Africa, sections of Central Asia, and in central Chile.

The Mediterranean climate is characterized by warm to hot, dry summers and mild to cool, wet winters. Mediterranean climate zones are associated with the five large subtropical high pressure cells of the oceans: the Azores High, South Atlantic High, **North Pacific High**, South Pacific High, and Indian Ocean High



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### 37. Ans : (a)

#### Explanation:

National Rehabilitation and Resettlement Policy, 2007 covers rehabilitation and resettlement of displaced person in all cases of land acquisition and in involuntary displacement due to other causes. It come under the jurisdiction of the Ministry of Rural Development.

### 38. Ans: (c)

#### Explanation:

**First Five-Year Plan 1951** : The first Indian Prime Minister, Pandit Jawaharlal Nehru presented the First Five-Year Plan to the Parliament of India and needed urgent attention. The First Five-year Plan was launched in 1951 which mainly focused in development of the primary sector. The First Five-Year Plan was based on the Harrod–Domar model with few modifications.

**Fourth Plan (1969–1974)** : At this time Indira Gandhi was the Prime Minister. The Indira Gandhi government nationalised 14 major Indian banks and the Green Revolution in India advanced agriculture..The target growth rate was 5.6%, but the actual growth rate was 3.3%.

**Sixth Plan (1980–1985)** : The Sixth Five-Year Plan marked the beginning of economic liberalisation. Price controls were eliminated and ration shops were closed. This led to an increase in food prices and an increase in the cost of living. This was the end of Nehruvian socialism.

Family planning was also expanded in order to prevent overpopulation. In contrast to China's strict and binding one-child policy, Indian policy did not rely on the threat of force<sup>[citation needed]</sup>. More prosperous areas of India adopted family planning more rapidly than less prosperous areas, which continued to have a high birth rate.

The Sixth Five-Year Plan was a great success to the Indian economy. The target growth rate was 5.2% and the actual growth rate was 5.4%.The only Five-Year Plan which was done twice.

**Eighth Plan (1992–1997)** : At that time Dr. Manmohan Singh (later Prime Minister of India) launched India's free market reforms that brought the nearly bankrupt nation back from the edge. It was the beginning of privatisation and liberalization in India.

Modernization of industries was a major highlight of the Eighth Plan. Under this plan, the gradual opening of the Indian economy was undertaken to correct the burgeoning deficit and foreign debt. Meanwhile India became a member of the World Trade Organization on 1 January 1995. This plan can be termed as, the Rao and Manmohan model of economic development. The major objectives included, controlling population growth, poverty reduction, employment generation, strengthening the infrastructure, institutional building, tourism management, human resource development, involvement of Panchayati rajis, Nagar Palikas, NGOs, decentralisation and people's participation.

### **Tenth Plan (2002 – 2007)**

#### **The main objectives of the Tenth Five-Year Plan were:**

- Attain 8% GDP growth per year.
- Reduction of poverty rate by 5% by 2007.
- Providing gainful and high-quality employment at least to the addition to the labour force.
- Reduction in gender gaps in literacy and wage rates by at least 50% by 2007.
- 20-point program was introduced.





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- Target growth: 8.1% - growth achieved: 7.7%
- Expenditure of Rs 43,825 crores for tenth five years  
Industrial sector was given more weight age from second five year plan to fifth five year plan.

**39. Ans: (d)**

**Explanation:**

Swayam siddha is the flagship programme of Ministry of women and child development for holistic empowerment of women through SHGs. It is an integrated project for the development and empowerment of women through self help groups (SHGs) with emphasis on covering services, developing access to micro credit and promoting micro-enterprises. It was launched in 2001. It is also known as the Indira Mahila Yojana.

**40. Ans: (d)**

**Explanation:**

The UN Convention on the Rights of the Child adopted by the United Nations in 1989. Spells out the basic human rights to which children everywhere are entitled. The following are the rights given under the convention:

Article 12 refers to children's rights to express their own opinions and to have them taken into account in any matter affecting them.

Article 17 recognises "the important function performed by the mass media.", and calls on those governments who have signed up to the convention to ensure that the child has access to information and material from a diversity of national and international and international sources.

Articles 28 and 29 (the right to education) article 31 (the right to participate in leisure, cultural and artistic activities) and Articles 34 and 36 (Which require that children should be protected from sexual and other forms of exploitation including pornography) are also relevant.

Development related rights: These are rights to the resources, skills and contributions necessary for the survival and full development of the child. They include rights require not only the existence of the means to fulfil the rights but also access to them. Specific articles address the needs of child refugees, children with disabilities and children of minority or indigenous groups.

**41. Ans: (c)**

**Explanation:**

$4 \times 11/2 \times 8 \text{ Km}$  which will be covered in = 22h

**42. Ans: (c)**

**Explanation:**

Under the Consumer Protection Act of 1986, the state Government shall establish a district forum in each district of the State, though more than one District Forum may be established in a district if it is deemed fit.

Each District Forum consists of a person who is, or who has been or is qualified to be, a district judge, who shall be its president; and two other members, one of whom shall be a woman.

The District Forum shall have jurisdiction to entertain complaints where the value of goods or services and the compensation, if any, claimed does not exceed rupees twenty lakhs.

**43. Ans C**

**Explanation:**



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Cobras are unique from any other snake in the world in that they build nests for their young. Like most other snakes, Cobras are oviparous. They lay between 20 and 40 eggs in a nest in the month of May and female cobra guards the nest for the incubation time lasting between 60 and 90 days.

**44. Ans : (b)**

**Explanation:**

National Geographic and the international polling firm Globe scan have just conducted their second annual study measuring and monitoring consumer progress toward environmentally sustainable consumption in 17 countries around the world. Consumer Greendex is a scientifically derived sustainable consumption index of actual consumer behaviour and material lifestyles across these countries. The greendex is comparable across the selection of countries representing both the developed and developing world.

**45. Ans: (b)**

**Explanation:**

Taxus Wallichiana Zucc. (Taxus baccata L) naturally occurs in the Himalayas. Its legal status is that, it has been included in the Red Data Book, The Taxol molecule however, is very complex and therefore almost impossible to reproduce in the laboratory. One would have to rely on extractions of the Taxol Compound from the Taxus tree. Taxol is a cancer medication. That interferes with the growth of cancer cells and slows their growth and spread in the body. Taxol is used to treat breast cancer, lung cancer and ovarian cancer. It is also used to treat AIDS related Kaposi's Sarcoma.

**46. Ans: (b)**

**Explanation:**

P>S>Q>S - According to age  
R>S>P>Q - According to wealth

**47. Ans: (c)**

**Explanation:**

Deflection of wind towards left in South Hemisphere (SH) and right in North Hemisphere (NH) is mainly due to rotation of earth (Coriolis force) and Ferrel's law talks about the diversion. i.e. left and right in S and N hemisphere respectively.

**48. Ans: (b)**

**Explanation:**

There are two parts in a compact fluorescent lamp (CFL) : the gas – filled tube (also called bulb or burner) and the magnetic or electronic ballast. An electrical current from the ballast flows through the gas (mercury vapour) causing it to emit ultraviolet light. The ultraviolet light then excites the phosphorous coating on the inside of the tube. This coating emits visible light.

**49. Ans: (d)**

**Explanation:**

Siberian cold winds would have no barrier without Himalayas. Alluvial soils of North India owe their origin to Shiwalik range of the Himalayas. Without Himalayas monsoon winds would not be deflected towards North India.



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**50. Ans: (c)**

**Explanation:**

ISRO launched the beta version of its Web – based 3-D satellite imagery tool, in 2009 Bhuvan offers superior imagery of Indian locations compared to other virtual Globe software. Bhuvan is satellite mapping tool similar to Google Earth. It offers resolutions up to 10 metres and is considered as a rival to Google Earth and Wikimedia.

**51. Ans: (a)**

**Explanation:**

The latitude that pass through Sikkim also pass through Rajasthan.

**52. Ans: (d)**

**Explanation:**

Clearly in 23<sup>rd</sup> day it was half fill on 22<sup>nd</sup> day it was 1/4 filled.

**53. Ans: (c)**

**Explanation:**

$$\begin{aligned} \text{Circumference of small coins} &= 2\pi k \\ \text{Circumference of big coins} &= 2\pi(3k) \\ &= 6\pi k \\ &= 3(2\pi k) \end{aligned}$$

Smaller coins rolled 3 times around the bigger coins

**54. Ans: (a)**

**Explanation:**

Suppose x and y are the interest rate of two bank respectively.

According to question,

$$\begin{aligned} \frac{500 \times x \times 2}{100} &= \frac{500 \times y \times 2}{100} = 12 \quad \left[ \because SI \frac{PRT}{100} \right] \\ \Rightarrow 10(x - y) &= 2.50 \\ \therefore x - y &= \frac{2.50}{10} = 0.25\% \end{aligned}$$

**55. Ans: (d)**

**Explanation:**

No. Of Shake hands

$$\begin{aligned} = {}^{10}C_2 &= \frac{10!}{8!2!} = \frac{10 \times 9 \times 8!}{8! \times 2} = \frac{10 \times 9}{2} \\ &= \frac{90}{2} = 45 \end{aligned}$$

**56. Ans: (d)**

**Explanation:**

Let number of question = x

$$\begin{aligned} \therefore &= x \times 60\% = 12 \\ \Rightarrow &= x \times \frac{60}{100} = 12 \\ \Rightarrow &x = 30 \end{aligned}$$



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57. Ans: (b)

**Explanation:**

$AB + 2 = 3$  Persons

Can stand in row in  $3! = 3 \times 2$  ways = 6 ways

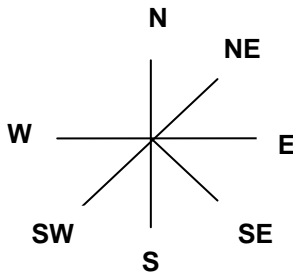
A and B can interchange in 2 ways

Total no. Of arrangement =  $6 \times 2 = 12$  ways

58. Ans: (b)

**Explanation:**

Direction rotate in anti-clockwise direction in  $135^\circ$  South will become North East



59. Ans: (a)

**Explanation:**

The 'Bombay Manifesto' signed in 1936 by twenty-one Bombay businessmen, contained an open indictment of Nehru's preaching of socialist ideals which were deemed prejudicial to private property and to the peace and prosperity of the country.

Although it did not evoke support from any other section of the business community, it strengthened the hands of the moderates within the congress like Bhulabhai Desai and G.B. Pant, who put pressure on Nehru to tone down his Socialist utterances.

60. Ans: (a)

**Explanation:**

Tyagaraja (May 4, 1767-January 6, 1847) was one of the greatest composers of carnatic music of classical South Indian Music. His full name is Kakarla Tyaga Brahman. He, alongwith his contemporaries Muthuswami Dikshitar and Shyama Shastri forms the Trinity of Carnatic music. He was a prolific composer and highly influential in the development of the South Indian classical music tradition. Tyagaraja composed thousands of devotional compositions, most of them in praise of Lord Rama. His compositions remain very popular even today. Of special mention are five of his compositions called the Pancharatna Krithis (five gems), which are often sung in programme in his honour.

61. Ans: (c)

**Explanation:**

Methane is produced under the anaerobic conditions associated with rice cultivation. It is done by microbial processes. Because of the increased. Use of the nitrogenous fertilizers of rice cultivation, oxides of nitrogen are emitted to the atmosphere especially in the cultivated soil.

62. Ans: (d)

**Explanation:**

Inherently sustainable development is intertwined with the concept of carrying capacity.



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**63. Ans: (b)**

**Explanation:**

Production of alcohol apart from molasses and sugarcane products, the non-molasses products like maize, starch, corn grain, sweet sorghum, tapioca, sugar beet are also equally getting importance as the climatic conditions for such type of agricultural crops suit India.

**64. Ans: (b)**

**Explanation:**

Also.

**National parks in India** are IUCN category II protected areas. India's first national park was established in 1936 as **Hailey National Park**, now known as Jim Corbett National Park, Uttarakhand. By 1970, India only had five national parks. In 1972, India enacted the Wildlife Protection Act and Project Tiger to safeguard the habitats of conservation reliant species. Eravikulam National Park is known for Nilgiri. Tahr, Hoolak Gibbon are found in the Manas National Park, Namdapha National Park and Kaziranga National Park in the North Eastern India.

**65. Ans: (b)**

**Explanation:**

An insectivorous plant, also called a carnivorous plant, captures prey items, such as insects, spiders, crustaceans, mites, and protozoan's as a nitrogen source. Many insectivorous species live in freshwater bogs, where nitrogen is not present in available form because the pH of the water is extremely acid.

**66. Ans : (b)**

**Explanation:**

let x hour he travel by foot

$$4x + 10(8 - x) = 50$$

$$80 - 6x = 50$$

$$6x = 30, x = 5 \text{ hour}$$

Distance = km

**67. Ans: (d)**

**Explanation:**

A **foreign direct investment (FDI)** is a controlling ownership in a business enterprise in one country by an entity based in another country Down-sizing of bureaucracy and selling/offloading the shares of Public Sector Undertakings directly cause reduction in fiscal deficit.

Privatization of higher education institutions can ameliorate the situation, however its effect will be ameliorate the situation, however its effect will be negligible. Without knowing the destination of Foreign Direct Investment inflows, we cannot determine the actual effect of it on fscal situation.

**68. Ans: (a)**

**Explanation:**

According to UN-Habitat's Global Report on Human settlements 2009, region wise level of urbanization (given in percentage) was as follows:

	1975	2007
Asia	24.0	40.8
Europe	65.1	72.2
Latin America and Caribbean	61.1	78.3
North America	73.8	81.3



# UPSC

## GENERAL STUDIES – 2010

69. Ans: (c)

**Explanation:**

Types of Forest	Area (in percentage)
(A) Montana Wet Temperature	3.45%
(B) Sub – tropical Dry Evergreen Forest	0.36%
(C) Tropical Moist Deciduous Forest	33.92%
(D) Tropical Wet Evergreen Forest	8.75%

70. Ans: (c)

**Explanation:**

Poor people don't participate in the capital market.

### Eleventh Plan (2007-2012)

- Rapid and inclusive growth.(Poverty reduction)
- Emphasis on social sector and delivery of service therein.
- Empowerment through education and skill development.
- Reduction of gender inequality.
- Environmental sustainability.
- To increase the growth rate in agriculture, industry and services to 4%,10% and 9% respectively.
- Reduce Total Fertility Rate to 2.1
- Provide clean drinking water for all by 2009.
- increase agriculture growth to 4%.

71. Ans: (c)

**Explanation:**

$$\begin{aligned} S &= (5 + 10 + 15 + \dots + 955 + \\ &\quad + (7 + 14 + \dots + 994) - (35 + 70 + \dots + 980) \\ &= 199 + 142 - 28 = 313. \end{aligned}$$

Number not divisible by 5 or 7 =  $999 - 313 = 686$

72. Ans: (b)

**Explanation:**

In Tamil Nadu, major soils are red sandy, alluvial and red loamy soils. Tamil Nadu has one of the skilled labour forces in India. 72)Black cotton soil is prevalent in tamil nadu is wrong and the red soil is prevalent. because the soil group in TN are

1. Red soils, (62 per cent)
2. Black soils (12 per cent)
3. Laterite soils (3 per cent) and
4. Coastal soils (7 per cent)

73. Ans: (b)

**Explanation:**

Fresh water comprises of since caps (68.7%), ground water (30.1%) and other sources (0.9%). Less than 1% of the world's fresh water (0.007%) of all water on earth) is accessible for direct human use.



# UPSC

## GENERAL STUDIES – 2010

**74. Ans: (c)**

**Explanation:**

Sand desert (20-30%). Prairie grassland (25%), Land covered with fresh snow (85%) and Paddy crop land (20-25%)

**75. Ans: (d)**

**Explanation:**

Beas flows through Mandi, Hamirpur districts of Himachal Pradesh. Chenab flows through Keylang, Manali etc, districts. Ravi flows through Chamba District of Himachal Pradesh. Satluj flows through Kalpa, Bilaspur etc, districts of Himachal Pradesh. Yamuna makes boundary between Himachal Pradesh. Yamuna makes boundary between Himachal Pradesh and Uttarkhand. It flows through Nahan district and enter in Himachal Pradesh in Sirmur district.

**76. Ans: (a)**

**Explanation:**

The President shall cause every recommendation made by the Finance Commission under the provisions of this Constitution together with an explanatory memorandum as to the action taken thereon to be laid before each House of Parliament.

**77. Ans: (b)**

**Explanation:**

Department of Economic (DEA) of the Ministry of Finance is the nodal agency of the Union Government to formulate and monitor country's economic policies and programmes having a bearing on domestic and international aspects of economic management. A principal responsibility of this Department is the preparation of the Union Budget annually (excluding the Railway Budget).

**78. Ans: (a)**

**Explanation:**

Person	A	B	C	D	E	-C	
Sex		(-)	(+)		(-)	(+)	(-)
Marital	UM	M		UM			
Work		x	prof		x		

**79. Ans: (a)**

**Explanation:**

In the 'fiscal stimulus' package either taxes are reduced or government spending is increased to increase the purchasing power of the people. **Economic recession**

In economics, a **recession** is a business cycle contraction. It is a general slowdown in economic activity. Macroeconomic indicators such as GDP(gross domestic product), investment spending, capacity utilization, household income, business profits, and inflation fall, while bankruptcies and the unemployment rate rise.

Recessions generally occur when there is a widespread drop in spending (an adverse demand shock). This may be triggered by various events, such as a financial crisis, an external trade shock, an adverse supply shock or the bursting of an economic bubble. Governments usually respond to recessions by adopting expansionary macroeconomic policies, such as increasing money supply, increasing government spending and decreasing taxation.







# UPSC

## GENERAL STUDIES – 2010

84. Ans: (b)

**Explanation:**

The story of Champaran begins in the early nineteenth century when European planters had involved the cultivators in agreement that forces them to cultivate indigo on 3/20<sup>th</sup> of their holdings (known as the tinkathia system). Towards the end of the nineteenth century. German Synthetic dyes forces indigo out of the market and the European planters of Champaran keen to release the cultivators from the obligation of cultivating indigo, tried to turn their necessity to their advantage by securing enhancements in rent and other illegal dues as a price for the release. Resistance had surfaced in 1908 as well, but the exactions of the planters continues till Raj Kumar Shukta, a local man, decided to follow Gandhiji all over the country to persuade him to come to Champaran to investigate the problem.

Gandhiji and his colleagues, who now included Brijkrishore, Rajendra Prasad and other members of the Bihar Intelligentsia, Mahadev Desai and Narhari Parikh, two young man from Gujarat who had thrown in their lot with Gandhiji and J.B. Kripalani, toured the villages and from dawn to dusk recorded the statements of peasants, interrogating them to make sure that they were giving correct information.

85. Ans: (c)

**Explanation:**

Cornwallis judicial reforms took the final shape by 1773 and were embodied in the famous Cornwallis Code. The new reforms were based on the principle of separation of powers. Under the influence of the eighteenth century French philosophers, Cornwallis sought to separate the revenue administration from the administration of justice.

The collector was the head of revenue department in a district and also enjoyed extensive judicial and magisterial powers. Cornwallis rightly believed that concentration of all powers in the hands of the Collector in the district retarded the improvement of the country. How could the Collector acting as a judge of the Diwani Adalat redress the wrongs done by him as Collector or assessor of revenue. Thus, neither the landlords nor the cultivators could regard the Collector as an impartial judge in revenue cases. The Cornwallis code divested the Collector of all judicial and magisterial powers and left him with the duty of administration of revenue. A new class of officer called the District Judge was created to preside over the District Civil Court. The District Judge was also given magisterial and police functions.

86. Ans: (b)

**Explanation:**

**Wholesale Price Index (WPI)** represents the price of goods at a wholesale stage i.e. goods that are sold in bulk and traded between organizations instead of consumers. WPI is used as a measure of inflation in some economies.

WPI is used as an important measure of inflation in India WPI is an easy and convenient method to calculate inflation. Inflation rate is the difference between WPI calculated at the beginning and the end of a year. The percentage increase in WPI over a year gives the rate of inflation for that year. **consumer price index** A comprehensive measure used for estimation of price changes in a basket of goods and services representative of consumption expenditure in an economy is called **consumer price index**. Inflation is measured using CPI. Earlier WPI was available on weekly basis. Last year it was changed to monthly basis.

Weight of food items - WPI-food articles - 15.402% and food products - 11.538%

Consumer Price Index for Industrial workers [CPI (IW)] - 57%



# UPSC

## GENERAL STUDIES – 2010

87. Ans: (b)

**Explanation:**

$${}^{11}C_2 = \frac{11 \times 10}{2} = 55$$

88. Ans: (b)

**Explanation:**

The radiator is responsible for transferring the heat absorbed by the coolant into the atmosphere. In the car, the radiator is not really a radiator because it does not really radiate but rather uses forced convection on two sides. In one circuit, the coolant water takes heat from the engine and delivers it to the radiator (really heat exchanger), where the heat is transferred to forced air. Both circuits use forced convection but the radiator. There is a constraint on the maximum temperature of the engine and also on the cooling water which is related to the system pressure. One does not want the water to boil (or pressure to increase).

89. Ans: (c)

**Explanation:**

Long Term Evolution (LTE) is the next step from 3G/WCDMA and HSPA for many already on the GSM technology curve but also for others too, such as CDMA operators. This new radio access technology will be optimized to deliver very fast data speeds of up to 100 Mb/s downlink and 50 Mb/s uplink (peak rates). LTE is a step toward the 4<sup>th</sup> Generation (4G) of radio technologies designed to increase the capacity and speed of mobile telephone networks. Enhanced Data rates for GSM Evolution (EDGE) (also carrier (IMT-SC), or Enhanced Data rates for Global Evolution is a backward - compatible digital mobile phone technology that allows improved data transmission rates, as an extension on top of standard GSM. EDGE is considered a 3G radio technology. EDGE was deployed on GSM networks beginning in 2003. EDGE is standardized part of the GSM Family, and it is an upgrade that provides more than three-fold increase in both the capacity and performance of GSM/GPRS networks. (Digital Subscriber Line) (DSL) is a family of technologies that provides digital data transmission over the wires of a local telephone network. DSL originally stood for digital subscriber loop. In telecommunications marketing, the term Digital Subscriber Line is widely understood to mean Asymmetric Digital Subscriber Line (ADSL), the most commonly installed technical varieties of DSL. DSL service is delivered simultaneously with regular telephone on the same telephone line as it uses a higher frequency band that is separated by filtering.

90. Ans: (d)

**Explanation:**

In cyberknife, radiation source is mounted on a industrial robot. The image guidance system is composed of the X-ray imaging camera located on supports around the patient allowing instantaneous X-ray images to be obtained. Mounted on the robot is a compact X-band linac that produces 6MV X-ray radiation. Mounting the radiation source on the robot allows complete freedom patient. Cyberknife is a non-invasive, sub millimetre accuracy cancer treatment that can treat most cancers without the need for surgery or nasty drugs and has no dose radiation to tumors with extreme accuracy - offers new hope to patients worldwide. One must have a high resolution CT scan and a PET scan of your lung so that the computer can use the information to 'map' the location of the tumor correct mapping is essential to radiosurgery.



# UPSC

## GENERAL STUDIES – 2010

**91. Ans: (d)**

**Explanation:**

Red	Blue
A D F	B C E
LR LR G	G LR G
N N	

**92. Ans: (c)**

**Explanation:**

Mustard is principally grown relatively in arid areas. Cotton is grown in black soil region which does not require 200 cm of rainfall. Virginia tobacco cannot exist above 125 cm rainfall. Conditions given are conducive for the growth of pepper.

**93. Ans: (b)**

**Explanation:**

Suppose length of the train = 1 metre

Speed of the train = 60 km/h

$$= 60 \times 1000$$

$$= 60000 \text{ m/h}$$

Length of tunnel = 1.5 km = 1500m

Time taken by train = 2 min

$$= \frac{1}{30} \text{ h}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\frac{1}{30} = \frac{l+1500}{60000}$$

$$l = 500 \text{ m}$$

**94. Ans: (d)**

**Explanation:**

Neutrinos are nearly massless, chargeless particles that travel at or near the speed of light. There are types of neutrinos: electron neutrinos, muon neutrinos, and tauon neutrinos. Electron neutrinos (or antineutrinos) are generated whenever protons change into neutrons (or neutrons into protons) the two forms of beta decay. More than 50 trillion solar neutrinos pass through the human body every second.

**95. Ans: (b)**

**Explanation:**

The directive principles are like instruments which were issued to the Governor in general and Governors of colonies and to those of India by the British Government under the 1935 Act under the Draft Constitution. It was proposed to issue such instructions to the President and Governors. The text of these instruments of the instructions is found in schedules IV to the Constitution of India.



# UPSC

## GENERAL STUDIES – 2010

96. Ans: (c)

**Explanation:**

Hydrogen fuel cell uses hydrogen as fuel and the only exhaust given out is harmless H<sub>2</sub>O. No toxic gas comes out.

97. Ans: (d)

**Explanation:**

LASIK (Laser Assisted In Situ Keratomileusis) is a type of refractive surgery for correcting myopia-hyperopia and astigmatism. Evidence on LASIK for the treatment of refractive errors suggests that it is effective in selected patients mild or moderate short - sightedness.

The LASIK technique was made possible by the Colombia-based Spanish ophthalmologist Jose Barraquer, who around 1950 in his clinic in Bogota, Colombia, developed the first micro Keratome, and developed the technique used to cut thin flaps in the cornea and alter its shape, in a procedure he called Keratomileusis.

LASIK represents advances over radial Keratotomy in the surgical treatment of vision problems, and are thus visible alternatives to wearing corrective eye-glasses or contact lenses for many patients.

The medical community has approved LASIK for age 18 and over. More importantly the person's eye prescription needs to be stable for at least one year prior to surgery.

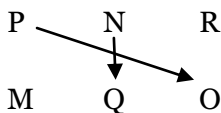
98. Ans: (c)

**Explanation:**

Acid rain is caused by emissions of compounds of ammonium, carbon, nitrogen and sulphur which react with the water molecules in the atmosphere to produce acids.

99. Ans: (b)

**Explanation:**



∴ Q is facing N

100. Ans: (b)

**Explanation:**

The number of different sums of money she can form from them is

$$= \frac{4!}{2} = \frac{4 \times 3 \times 2 \times 1}{2} = 12$$

101. Ans: (d)

**Explanation:**

Emerging markets are nations with social or business activity in the process of rapid growth and industrialization. Currently there are 28 emerging markets in the world. With the economies of China and India considered to be the two largest. Examples of emerging markets include China, India. Some countries of Latin America (particularly Argentina, Brazil, Chile, Mexico, Colombia and Peru), Some countries in South-East Asia, most countries in Eastern Europe, Russia, some countries in the Middle East (Particularly in the Persian Gulf Arab State) and parts of Africa (particularly South Africa). Emphasizing the fluid nature of the category. Political Scientist Ian Bremmer defines an emerging market as “a country where politics matters at least as much as economics to the markets.”



# UPSC

## GENERAL STUDIES – 2010

102. Ans: (d)

**Explanation:**

Multilateral Investment Guarantee Agency (MIGA) is a specialized agency of the United Nations, formed in 1988, with headquarters in Washington, DC International Finance Corporation (IFC) is a specialized agency of United Nations (UN), affiliated with but legally separate from the International Bank for Reconstruction and Development (world Bank), founded in 1956, headquarters in Washington, DC.

International centre for settlement of Investment Disputes (ICSID) is a specialized agency of the United Nations. A member of the world Bank Group, it was formed in 1966 and has its headquarters in Washington. DC.

The **Bank for International Settlements**; French is an international organization of central banks which "fosters international monetary and financial cooperation and serves as a bank for central banks". It also provides banking services, but only to central banks and other international organizations. It is based in Basel, Switzerland, with representative offices in Hong Kong and Mexico City.

The **Multilateral Investment Guarantee Agency (MIGA)** is an international financial institution which offers political risk insurance and credit enhancement guarantees. Such guarantees help investors protect foreign direct investments against political and non-commercial risks in developing countries.<sup>[1]</sup> MIGA is a member of the World Bank Group and is headquartered in Washington, D.C., United States.

The **International Finance Corporation (IFC)** is an international financial institution that offers investment, advisory, and asset management services to encourage private sector development in developing countries. The IFC is a member of the World Bank Group and is headquartered in Washington, D.C., United States

The **International Centre for Settlement of Investment Disputes (ICSID)** is an international arbitration institution which facilitates legal dispute resolution and conciliation between international investors. The ICSID is a member of the World Bank Group, from which it receives funding, and is headquartered in **Washington, D.C.**, in the United States

103. Ans: (a)

**Explanation:**

**In brief,**

**An economic meltdown occurs when a country experiences a sudden downturn in the state of its economy.** During an economic meltdown, many people will be unemployed or underemployed, companies may go out of business, wages and benefits will drop or stagnate, inflation will occur, the nation's gross domestic product (GDP) will decrease and it may be difficult for many prospective borrowers to obtain a loan.

An **economic slowdown** occurs when the rate of growth in the GDP of an **economy** slows from the previous period. An **economic slowdown** is a natural part of the business cycle. However, it should not be confused with a **recession, which involves an actual decline in GDP.**

Recession means negative growth is fall in GDP.

Slow down means reduction in the growth rate of GDP.

Melt down is the term used for weakness in the financial markets which implies security Sundaram.



# UPSC

## GENERAL STUDIES – 2010

104. Ans: (b)

**Explanation:**

**BRICS** is the acronym for an association of five major emerging national economies: **Brazil, Russia, India, China** and **South Africa**.<sup>[4]</sup> The grouping was originally known as "BRIC" before the inclusion of South Africa in 2010. The BRICS members are all developing or newly industrialised countries, but they are distinguished by their large, fast-growing economies and significant influence on regional and global affairs; all five are G-20 members.<sup>[5]</sup> Since 2010, the BRICS nations have met annually at formal summits. Russia currently holds the chair of the BRICS group, and will host the group's seventh summit in July 2015.

As of 2014, the five BRICS countries represent almost 3 billion people, or approximately 40% of the world population; as all five members are in the top 25 of the world by population, and four are in the top 10. The five nations have a combined nominal GDP of US\$16.039 trillion, equivalent to approximately 20% of the gross world product, and an estimated US\$4 trillion in combined foreign reserves.<sup>[1][6]</sup> The BRICS has received both praise and criticism from numerous commentators. GDP of BRIC countries: China \$ 4.326 trillion; India 1.217 trillion; Brazil \$ 1.612 trillion and Russia \$ 1.607 trillion.

Population: China 134.57 million; India 119.8 million; Brazil 19.37 million and Russia 14.08 million.

105. Ans: (c)

**Explanation:**

SDR is the currency of IMF while ADR/GDR are financial instruments.

106. Ans: (b)

**Explanation:**

In the wake of the global financial and economic crisis, the President of the UN General Assembly, Miguel 'd' Escoto Brockmann, set up a commission of experts chaired by Nobel Prize Laureate Joseph Stiglitz, whose mandate was to reflect on the causes of the crisis, assess its impacts on all countries and suggest adequate response to avoid its recurrence and restore global economic stability.

107. Ans: (b)

**Explanation:**

Most of Nickel reserves of India are found in Cuttak, Keonjhar and Mayurbhanj districts of Orissa (92%). Copper is mostly found in Bihar-Jharkhand (44%) and Rajasthan (20%) Tungsten is produced only in Degana mine in Rajasthan.

**Copper:**

Major and important copper ore deposits are located in Singhbhum district (Jharkhand), Balaghat district (Madhya Pradesh) and Jhunjhunu and Alwar districts (Rajasthan). In addition, there are small copper ore deposits in Gujarat, Karnataka, Andhra Pradesh, Uttar Pradesh, Sikkim, Meghalaya, Maharashtra and West Bengal. The total in situ reserves of copper ore in the country are 712.5 million tonnes, equivalent to 9.4 million tonnes of metal content..

**Tungsten:**

The main reserves are at Degana, Rajasthan. It also occurs in Maharashtra, Haryana, West Bengal and Andhra Pradesh. The total in situ reserves of tungsten ore have been estimated at 43.15 million tonnes or 1, 32,478 tonnes of content..

**Nickel :**

reserves found in Orissa of 90% in Cuttak, Keonjhar, Mayurbhanj districts



# UPSC

## GENERAL STUDIES – 2010

108. Ans: (a)

**Explanation:**

The Codex Alimentarius Commission was created in 1963 by FAO and WHO to develop food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standard Programme. The main purpose of this programme are protecting health of the consumers and ensuring fair trade practices in the food trade and promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations.

109. Ans: (b)

**Explanation:**

The target is to increase production of rice, wheat and pulses by 10, 8 and 2 million tones respectively.

The **National Food Security Act, 2013** (also **Right to Food Act**) is an Act of the Parliament of India which aims to provide subsidized food grains to approximately two thirds of India's 1.2 billion people.<sup>[1]</sup> It was signed into law on September 12, 2013, retroactive to July 5, 2013.<sup>[2][3]</sup>

- Rice at 3 per kg
- Wheat at 2 per kg
- Coarse grains (millet) at 1 per kg.

110. Ans: (d)

**Explanation:**

Interest rate on saving bank account is fixed by the RBI.

111. Ans: (a)

**Explanation:**

The Simon Commission was to enquire “into working of the system of government, the growth of education and the development of representatives’ institution in British India and matters connected “therewith” and to report “as to whether and to what extent, it is desirable to establish the principle of responsible government or to extend, modify or restrict the degree of responsible government then existing therein, including the question, whether the establishment of second-third members of the local legislatures is or is not desirable”. During the enquiry, the Commission - “was increasingly impressed by the impossibility of considering the constitutional problems of British India without taking into account the relations between British India and the Indian States”.

112. Ans: (a)

**Explanation:**

There was a great deal of public debate and disagreement among Moderates and Extremists in the years 1905-1907, even when they were working together against the partitioning of Bengal, the Extremists wanted to extend the Swadeshi and the Boycott Movement from Bengal to the rest of the country. They also wanted to gradually extend the Boycott from foreign goods to every form of association or cooperation with the Colonial Government. The Moderates wanted to confine the Boycott part of the movement to Bengal and were totally opposed to its extension to the Government. Matters nearly came to a head at the Calcutta Congress Session in 1906 over the question of its President ship. A split was avoided by choosing Dadabhai Naoroji, who was respected by all the nationalists as a great patriot. Four compromise resolutions on the Swadeshi, Boycott, National Education and Self-Government demands were passed. Throughout 1907, the two sides fought over differing interpretations of the four resolutions.



# UPSC

## GENERAL STUDIES – 2010

113. Ans: (c)

**Explanation:**

Let  $Z = 100$

$X = 80$

$Y = 72$

Y is less by  $X = 8$

Y is less than X in percentage (%) =  $\frac{8 \times 100}{80} = 10\%$

114. Ans: (d)

**Explanation:**

In March 1944, Mr. C. Rajagopalachari evolved a formula with the “Full” approval of Gandhiji for the Congress. The scheme embodying the formula was: (i) The League would endorse the demand for independence and cooperate with the Congress in forming a provisional government of the transitional period; (ii) At the end of the war a plebiscite of all the inhabitants in the Muslim-majority areas in the North-West and the North-East would decide whether or not they should form a separate state; (iii) In the event of separation, agreements would be made for defence, communications and other essential matters; (iv) These terms were to be binding only in case of transfer by England of full power and responsibility for the Government of India. However, the constitutional deadlock continued.

115. Ans: (a)

**Explanation:**

Bagh caves in Dhar district of Madhya Pradesh were built by Dattaka, a Buddhist bhikshu (monk) during Gupta period. Many of the images in paintings got their context from ‘Ritusamhara’ of Kalidasa (a poet in Gupta Court). Lomas Rishi cave (Barabar, Bihar) and Nasik caves were built before the Gupta period.

116. Ans: (b)

**Explanation:**

The United Nations Framework Convention on Climate Change (UNFCCC or FCCC) is an international environmental treaty produced at the United Nations Conference on Environment and Development (UNCED). Informally known as the Earth Summit, held in Rio de Janeiro from 3 to 14 June, 1992. The **United Nations Framework Convention on Climate Change (UNFCCC)** is an international environmental treaty (currently the only international climate policy venue with broad legitimacy, due in part to its virtually universal membership)<sup>[2]</sup> negotiated at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro from 3 to 14 June 1992. The objective of the treaty is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

117. Ans: (d)

**Explanation:**

Oil eating bacteria (scientific name, *Pseudomonas putida*) is an aerobic bacteria. The generic name *Pseudomonas* created for organisms like oil eating bacteria was defined as a group of Gram-negative, rod-shaped and polar-flagella bacteria.





# UPSC

## GENERAL STUDIES – 2010

118. Ans: (c)

**Explanation:**

Cyan bacteria, also known as blue-green algae, blue-green bacteria or Cyanophyta, is a phylum of bacteria that obtain their energy through photosynthesis. They are a significant component of the marine nitrogen cycle and an important primary producer in many areas of the ocean but are also found in habitats other than the marine environment. During the crop growth cycle, the blue-green algae grow, multiply, fix atmospheric nitrogen and make it available to the crop by way of excretion and autolysis.

119. Ans: (c)

**Explanation:**

The Ramsar Convention (The Convention Wetlands of International Importance, especially as Waterfowl Habitat), named after the town of Ramsar in Iran, is an international treaty for the conservation and sustainable utilisation of wetlands, ie to stem the progressive encroachment on and loss of wetlands now and in the future, recognising the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

120. Ans: (c)

**Explanation:**

Pongamia pinnata is especially attractive because it grows naturally through much of arid India, having very deep roots to reach water.

Pongamia pinnata has the rare property of producing seeds of 25-40% lipid content of which nearly half is oleic acid.

121. Ans: (b)

**Explanation:**

The above temperature and rainfall represents tropical rain forest. This geographical region have double rainfall peak, coinciding with March and October and high average annual temperature with only 2- 3°C annual temperature range. Total annual average rainfall is 173.4 cm. Altitude of area is around 400 m above sea level is largely the height of plain area.

122. Ans: (b)

**Explanation:**

Just a sunlight shines through a window, microwaves pass right through some materials. Materials such as glass, paper and plastic are transparent to and generally unaffected by microwaves. All liquids and food product are made up of molecules. These molecules have positive and negative particles, so that tend to behave like microscopic magnets. As the positive half cycles of the microwave penetrates the food. The negative particles of the molecules are attracted and attempt to align themselves with this positive field of energy.

When the water saturated paper is subjected to the microwave radiation it becomes hot. Microwave heating is more efficient on liquid water than on fats and sugars (which have a smaller molecules dipole moment) and also more efficient than on frozen water (where the molecules are not free to rotate). Moreover large industrial/commercial microwave ovens operating at the common large industrial oven microwave also heat water and food perfectly well.

123. Ans: (b)

**Explanation:**

NSAP is a social assistance programme for poor households launched on 15<sup>th</sup> August, 1995 and represents a significant step towards the fulfilment of the Directive Principles in Articles 41 and 42 of the



# UPSC GENERAL STUDIES – 2010

Constitution recognizing the Concurrents responsibility of the central and state governments in the matter.

The NSAP will include for the time being, three benefits as its components, viz.

1. National Old Age Pension Scheme (NOAPS)
2. National Family Benefit Scheme (NFBS)
3. National Maternity Benefit Scheme (NMBS)

Article 42: Right to work, to education and to public assistance in certain cases.

All these schemes also fulfil the criteria of Right to Life, given under the Article 21 of the Constitution (Fundamental Right).

**124. Ans: (b)**

**Explanation:**

El Nino Modoki forms in Central Pacific and it does result in greater number of hurricanes with greater frequency. Normal El Nino results in diminished hurricanes in Atlantic Ocean.

**125. Ans: (b)**

**Explanation:**

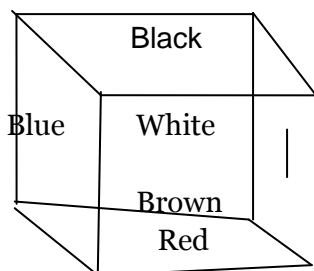
Mon 863 is a genetically modified (GM) variety of maize, which is natural pesticide producing variety (with resistance to corn rootworm) produced by Monsanto Company and approved for human consumption in the European Union.

However, when it was tested on rats, it showed signs of being toxic to the liver and kidney. The transgenic maize affected the two sexes differently, which is often the cause for effects due to pesticides that disrupt sex hormones.

**126. Ans: (c)**

**Explanation:**

- Red - Black
- Blue - White
- Blue - x Brown → Brown - White



Red side of cuboid is opposite to black and blue side is adjacent (nearer) to white side. Also, brown side is adjacent to blue side. Hence, white side is opposite to brown side.

**127. Ans: (d)**

**Explanation:**

The Oceansat – 2 carrying two payloads, namely, Ocean Color Monitor (OCM) and Multi-frequency Scanning Microwave Radiometer (MSMR) or Microwave Scatterometer, were flown on board IRSP4. While the OCM detects the chlorophyll content, suspended sediment and yellow substance (degraded



# UPSC

## GENERAL STUDIES – 2010

biomass), the MSMR measures sea surface temperature, wind magnitude, water vapour and liquid water content in the atmosphere which are used to compute geophysical parameters of the ocean and weather forecasting and climate studies. MSMR helps track the onset of the monsoon by measuring the wind speed on the ocean surface. The OCM data is being used in 'true' operational sense for identification of Potential Fishery Zones (PFZ) in the Arabian Sea and Bay of Bengal on a daily basis. It will also help track the movement of cyclones, predict the onset of monsoons and monitor coastal water pollution.

**128. Ans: (b)**

**Explanation:**

Golden rice is a variety of *Oryza sativa* rice produced through genetic engineering to biosynthesize beta-carotene, a precursor of pro-vitamin A in the edible parts of rice. The scientific details of the rice were first published in science in 2000. Golden rice was developed as a fortified food to be used in areas where there is a shortage of dietary vitamin A. In 2005 a new variety called Golden Rice 2 was announced which produces up to 23 times beta-carotene than the original variety of golden rice. Neither variety is currently available for human consumption. Although golden rice was developed as a humanitarian tool, it has met with anti globalization activities.

**129. Ans: (b)**

**Explanation:**

$$\text{No. Of matches played} = {}^{14}C_2 = \frac{14 \cdot 13}{2} = 91$$

**130. Ans: (b)**

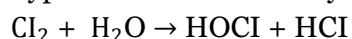
**Explanation:**

Article 143: Power of President to consult Supreme Court 1. If at any time it appears to the President that a question of law or fact has arisen, or is likely to arise, which is of such a nature and of such public importance that it is expedient to obtain the opinion of the Supreme Court upon it, he may refer the question to that court for consideration and the court may, after such hearing as it thinks fit, report to the President its opinion thereon 2. The President may, notwithstanding anything in the provision to Article 131, refer a dispute of the kind mentioned in the said provision to the Supreme Court for opinion and the Supreme Court shall, after such hearing as it thinks fit, report to the President its opinion thereon.

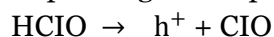
**131. Ans: (c)**

**Explanation:**

When chlorine is added to water, it reacts to form a pH dependent equilibrium mixture of chlorine, hypochlorous acid and hydrochloric acid:



Depending on the pH, hypochlorous acid partly dissociating to hydrogen and hypochlorite ions;



The disinfecting action of chlorine is mainly due to the hypochlorous acid and to a small extent due to the hypochlorite ions. The hypochlorous acid is the most effective form of chlorine for water disinfection. It is more effective form of chlorine for water disinfection. It is more effective (70-80 times) than the hypochlorite ion. Chlorine acts best as a disinfectant when the pH of water is around 7 because of the predominance of hypochlorous acid.



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132. Ans: (d)

**Explanation:**

The jurisdiction of the Lok Adalats is wide - any matter falling within the jurisdiction of civil criminal, revenue courts or tribunals can be taken up.

If both the concerned parties agree then the court can refer the matter to a Lok Adalat for rather informal dispute resolution. A Lok Adalat has the jurisdiction to settle, by way of effecting compromise between the parties, any matter which may be pending before any court, as well as matters at pre-litigative stage i.e., disputes which have not yet been formally instituted in any Court of Law.

133. Ans: (d)

**Explanation:**

Frequency bands have been allocated for cordless phones in the range 2.4 GHz to 2.4835 GHz, which is unlicensed and used for many communications applications, including Bluetooth and Wi-Fi, Microwave ovens also use this frequency.

134. Ans: (a)

**Explanation:**

Tea is also propagated from seeds and leaf cuttings, in addition to stem cuttings.

135. Ans: (b)

**Explanation:**

SSM (Special Safeguard Mechanism) is a provision in the WTO to provide safeguard member countries against surge in imports. It was a major issue in 2008 when the WTO talks failed to progress due to lack of unanimity on the issue. **SSM** would allow developing countries to raise tariffs temporarily to deal with the import surges and price falls. It was an issue on agriculture.

136. Ans: (c)

**Explanation:**

SLR (Statutory Liquidity Ratio) is the ratio used by the RBI as a monetary tool. Banks prefer to keep a part of the prescribed ratio in the form of treasury bills, thus financing the government short term borrowing.

137. Ans: (b)

**Explanation:**

Trade mark is a right of a company or manufacturer while geographical indication is related with a particular area. It applies to the products which are area specific like particular variety of mango produced in specific area in a country. Geographical indication is a name or sign used on certain products which corresponds to a specific geographical location or origin. E.g, a town, region, country.

Geographical Indications (GI) are like trade marks, except that they are indicators of a geographical area. They can belong to any goods or products whether natural, agricultural or manufacturing. Example of GIs are: basmati rice, champagne, swiss watches etc. GIs are area specific as an identity, so it cannot be licensed.

138. Ans: (a)

**Explanation:**

The objective of the SEZ Act and SEZ policy is to create infrastructure for manufacturing as well as services and to promote export. It also promotes FDI in these areas.



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◆-----◆  
**139. Ans: (c)**

**Explanation:**

Inflation denotes rise in general price level in an economy. Deflation is just opposite of inflation which denotes fall in general price level.

**140. Ans: (d)**

**Explanation:**

Western Himalayas and Andaman and Nicobar Islands are not biodiversity hotspots. Hotspots are also located in temperate regions eg. California floristic province, Japanese islands.

**141. Ans: (a)**

**Explanation:**

Malaria has many variants. Genetic diversity of the parasite causes malaria. Malaria parasite uses many tools to infect humans. The parasite genome is very plastic. There are more than 27,000 variants across the genome. If one variant of malaria is successfully treated, another might rise from the background making development of vaccines to combat malaria very difficult. Different strains require different vaccines.

**142. Ans: (c)**

**Explanation:**

Biosphere Reserve is declared to conserve some representative ecosystems as a whole for long term in situ. Since 1970, legislations like Wildlife Protection Act are used to specify borders of National Parks and Wildlife Sanctuary.

There are three zones in a Wildlife Sanctuary-core zone (no interference allowed), buffer zone (eco-development and forest improvement, regulated pilgrimage, research activities are allowed) and tourism zone (tourism is allowed).

**143. Ans: (d)**

**Explanation:**

The chemical pesticides consist of largely non-biodegradable compounds. These compounds are either short lived or long lived. Short lived compounds leave the food chain early. However, long lived compounds get concentrated in the upper levels of food chain. The food chain of the given members will be like this – food crop – rat – snake – hawk.

**144. Ans: (c)**

**Explanation:**

Sand fences is a simple and cheap method of inducing accretion of sands in arid and sandy areas. These fences are principally consisted of xerophytic plants and wooden barricades.

**145. Ans: (b)**

**Explanation:**

Non-Banking Finance Company (NBFC) is a company registered under the Companies Act, 1956 and is engaged in the business of loans and advances, acquisition of shares/stock/bonds/debentures/securities issued by government or local authority or other securities of marketable nature, leasing, hire purchase, insurance, business, chit business. NBFCs are finance companies but not banks and are thus not allowed to function as bank but to take deposits in other forms like fixed deposit. They are not allowed to open savings bank accounts and are not members of the clearing houses.



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146. Ans: (c)

**Explanation:**

In the FRBM Act, the target has been set for reduction in revenue deficit and deficit only and not for primary deficit.

147. Ans: (a)

**Explanation:**

Relative Speed =  $60 + 40 = 100$

Time =  $\frac{\text{Distance}}{\text{Speed}} = \frac{150}{100} = \frac{3}{2}$  h

148. Ans: (d)

**Explanation:**

∴ Each question can be answered in 2 ways

10 questions can be answered =  $2^{10} = 1024$  ways

149. Ans: (a)

**Explanation:**

Bears are the investors who expect the prices of securities to fall and they sell the securities and buy again when the prices actually fall.

150. Ans: (b)

**Explanation:**

India has a double tax avoidance treaty with Mauritius. Investors from Mauritius are exempted from tax in India and the tax rates are very low in Mauritius. So it is favourable for investors to get registered in Mauritius and then invest in India as an entity from Mauritius. This investment is not from Mauritius but through Mauritius.

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