



**Anusha Learning**  
Online IAS Academy

- IAS PRELIMS  
2012  
SERIES A

1/A2012

- In the areas covered under the Panchayat (Extension to the Scheduled Areas) Act, 1996, what is the role/power of Gram Sabha?
  1. Gram Sabha has the power to prevent alienation of land in the Scheduled Areas
  2. Gram Sabha has the ownership of minor forest produce
  3. Recommendation of Gram Sabha is required for granting prospecting licence or mining lease for any mineral in Scheduled Areas

Which of the statements given is/are correct?

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

## Extension to Scheduled Areas) Act 1996 (PESA)

- The recommendations of the Gram Sabha or the Panchayats at the appropriate level shall be made mandatory prior to grant of prospecting licence or mining lease for minor minerals in the Scheduled Areas;
- PESA promotes self-governance in Schedule V Areas, giving centrality to Gram Sabhas.
- Under PESA, Gram Sabhas have mandatory executive functions
  - to approve plans of the Village Panchayats,
  - identify beneficiaries for schemes,
  - issue certificates of utilization of funds,
  - right to be consulted before land acquisition,
  - rehabilitation & resettlement
  - power to regulate and restrict sale/consumption of intoxicants,
  - prevent alienation of land and restore alienated land,
  - manage village markets,
  - control money lending and ownership of minor forest produce.
- Specific provisions in the law are designed to prevent tribal alienation from their lands and the restoration of illegally alienated land. Another provision makes it mandatory for the Gram Sabha to be consulted prior to land acquisition in tribal areas.

2/A2012

- In the Parliament of India, the purpose of an adjournment motion is
  - A) to allow a discussion on a definite matter of urgent public importance
  - B) to let opposition members collect information from the ministers
  - C) to allow a reduction of specific amount in demand of grant
  - D) to postpone the proceedings to check the inappropriate or violent behavior on the part of some members

## Adjournment Motion

- The primary object of an adjournment motion is to draw the attention of the House to a recent matter of urgent public importance having serious consequences
- The matter proposed to be raised should be of such a character that something very grave which affects the whole country and its security has happened and the House is required to pay its attention immediately by interrupting the normal business of the House.
- A matter which falls within the jurisdiction of a State Government is inadmissible
- The notice of an adjournment motion is required to be given on the prescribed form. It should be addressed to the Secretary-General and copies thereof endorsed to the Speaker, the Minister concerned and the Minister of Parliamentary Affairs.

3/A2012

- How does National Biodiversity Authority (NBA) help in protecting the Indian agriculture?
  1. NBA checks the biopiracy and protects the indigenous and traditional genetic resources
  2. NBA directly monitors and supervises the scientific research on genetic modification of crop plants
  3. Application for Intellectual Property Rights related to genetic/biological resources cannot be made without the approval of NBA

Which of the statements given above is/are correct?

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

## National Biodiversity Authority (NBA)

- NBA imposes conditions which secure equitable sharing of benefits arising out of the use of biological resources and associated knowledge.
- These benefits could include monetary gains; grant of joint ownership of Intellectual property Rights (IPRs), transfer of technology, association of Indian scientists in research and development, setting up of venture capital funds etc.
- NBA's approval is also required before seeking any IPR based on biological material and associated knowledge obtained from India.
- The NBA also has power to oppose grant of IPRs in any other country on biological resources or associated knowledge obtained or derived from India.



4/A2012

- The National Green Tribunal Act, 2010 was enacted in consonance with which of the following provisions of the Constitution of India?
  1. Right to healthy environment construed as a part of Right to Life under Article 21
  2. Provision of grants for raising the level of administration in Scheduled Areas for the welfare of Scheduled Tribes under Article 275 (1)
  3. Powers and functions of Gram Sabha as mentioned under Article 243(A)

Select the correct answer using the codes given below:

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

## NGT

- NGT Act, 2010 passed by the Parliament which enables creation of a special tribunal to handle the expeditious disposal of the cases pertaining to environmental issues
- And cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.
- It draws inspiration from the India's constitutional provision of (Constitution of India/Part III) Article 21 Protection of life and personal liberty, which assures the citizens of India the right to a healthy environment. Delhi Pollution Control Committee (DPCC) is a department to control pollution in Delhi.

5/A2012

- If National Water Mission is properly and completely implemented, how will it impact the country?
  1. Part of the water needs of urban areas will be met through recycling of waste water.
  2. The water requirements of coastal cities with inadequate alternative sources of water will be met by adopting appropriate technologies that allow for the use of ocean water
  3. All the rivers of Himalayan origin will be linked to the rivers of peninsular India
  4. The expenses incurred by farmers for digging bore-wells and for installing motors and pump-sets to draw ground-water will be completely reimbursed by the Government

Select the correct answer using the codes given below

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

## National Water Mission

- The objective of National Water Mission is "conservation of water, minimizing wastage and ensuring its equitable distribution both across and within States through integrated water resources development and management".
- It will seek to ensure that a considerable share of the water needs of urban areas are met through recycling of waste water, and ensuring that the water requirements of coastal cities with inadequate alternative sources of water are met through adoption of new and appropriate technologies such as low temperature desalination technologies that allow for the use of ocean water.

6/A2012

- Consider the following provisions under the Directive Principles of State Policy as enshrined in the Constitution of India:
  1. Securing for citizens of India a uniform civil code
  2. Organizing village Panchayats
  3. Promoting cottage industries in rural areas
  4. Securing for all the workers reasonable leisure and cultural opportunities

Which of the above are the Gandhian Principles that are reflected in the Directive Principles of State Policy

- A) 1,2 and 4 only
- C) 1,3 and 4 only

- B) 2 and 3 only
- D) 1,2,3 and 4

## Directive Principles

- The Constitution of India does not formally classify the **Directive Principles** of State Policy but for better understanding and on the basis of content and direction- they can be classified into **three categories: Socialistic Principles, Gandhian Principles, and Liberal-Intellectual Principles.**
- The four fundamental principles that Mahatma Gandhi taught: Truth (satya), **non-violence**(ahimsa), welfare of all (sarvodaya) and peaceful protest (satyagraha).

7/A2012

- Consider the following statements:
  1. Union Territories are not represented in the Rajya Sabha
  2. It is within the purview of the Chief Election Commissioner to adjudicate the election disputes
  3. According to the Constitution of India, the Parliament consists of the Lok Sabha and the Rajya Sabha only

Which of the statements given above is are correct?

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

## Rajya Sabha Seats

State	Seats	State	Seats	State	Seats
UP	31	Kerala	9	Arunachal Pradesh	1
Maharashtra	19	Assam	7	Goa	1
Tamil Nadu	18	Punjab	7	Manipur	1
Bihar	16	Telangana	7	Meghalaya	1
West Bengal	16	Jharkhand	6	Mizoram	1
Karnataka	12	Chhattisgarh	5	Nagaland	1
Andhra Pradesh	11	Haryana	5	Puducherry	1
Gujarat	11	J&K	4	Sikkim	1
Madhya Pradesh	11	Uttarakhand	3	Tripura	1
Rajasthan	10	Delhi	3	Nominated	12
Odisha	10	Himachal Pradesh	3	Total	245



8/A2012

- With reference to consumers' rights privileges under the provisions of law in India, which of the following statements is are correct?
  1. Consumers are empowered to take samples for food testing
  2. When a consumer files a complaint in any consumer forum no fee is required to be paid
  3. In case of death of a consumer, his/her legal heir can file a complaint in the consumer forum on his/her behalf

Select the correct answer using the codes given below:

- |                 |                 |
|-----------------|-----------------|
| A) 1 only       | B) 2 and 3 only |
| C) 1 and 3 only | D) 1,2 and 3    |

## Consumers Rights

- Right to safety
- Right to choose
- Right to be informed
- Right to consumer education
- Right to be heard
- Right to seek Redressal
- Consumer protection Act

9/A2012

- Regarding the office of the Lok Sabha Speaker, consider the following statements:
  1. He/she holds office during the pleasure of the President
  2. He/she need not be a member of the House at the time of his/her election but has to become a member of the House within six months from the date of his/her election
  3. If he/she intends to resign the letter of his/her resignation has to be addressed to the Deputy Speaker

Which of the statements given above is/are correct?

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

10/A2012

- Which of the following are included in the original jurisdiction of the Supreme Court?
  1. A dispute between the Government of India and one or more States
  2. A dispute regarding elections to either House of Parliament or that of Legislature of a State
  3. A dispute between the Government of India and a Union Territory
  4. A dispute between two or more States

Select the correct answer using the codes given below:

A) 1 and 2

B) 2 and 3

C) 1 and 4

D) 3 and 4

11/A2012

- Consider the following kinds of organisms:
  1. Bacteria
  2. Fungi
  3. Flowering Plants

Some species of which of the above kinds of organisms are employed as biopesticides?

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

- **Biopesticides** include naturally occurring substances that control pests (biochemical pesticides), microorganisms that control pests (microbial pesticides), and pesticidal substances produced by plants containing added genetic material (plant-incorporated protectants) or PIPs.
- **Biopesticides** are certain types of pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals. For example, canola oil and baking soda have pesticidal applications and are considered **biopesticides**.
- **The most commonly used biopesticides** are living organisms, which are pathogenic for the pest of interest. These include biofungicides (*Trichoderma*), bioherbicides (*Phytophthora*) and bioinsecticides (*Bacillus thuringiensis*). There are few plant products also which can now be used as a major **biopesticide** source.

12/A2012

- Biomass gasification is considered to be one of the sustainable solutions to the power crisis in India. In this context, which of the following statements is/are correct?
  1. Coconut shells, groundnut shells and rice husk can be used in biomass gasification
  2. The combustible gases generated from biomass gasification consist of hydrogen and carbon dioxide only
  3. The combustible gases generated from biomass gasification can be used for direct heat generation but not in internal combustion engines.

Select the correct answer using the codes given below:

- |                 |                 |
|-----------------|-----------------|
| A) 1 only       | B) 2 and 3 only |
| B) 1 and 3 only | D) 1,2 and 3    |

## Biomass Gasification

- In gasification process organic material is converted into methane, carbon monoxide, hydrogen, carbon dioxide . It is obtained by reacting the material at high temperature (>7000C) without combustion with a controlled amount of oxygen / steam and the resulting gas mixture is called Syngas or Producer Gas which itself is a fuel.



13/A2012

- What is the role of Ultraviolet (UV) radiation in the water purification systems?
  1. It inactivates/kills the harmful microorganisms in water
  2. It removes all the undesirable odours from the water
  3. It quickens the sedimentation of solid particles, removes turbidity and improves the clarity of water

Which of the statements given above is/are correct?

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

## Ultraviolet Rays

- **Ultraviolet rays** can be used to kill microbes. Hospitals use **UV lamps** to sterilise surgical equipment and the air in operating theatres.
- Suitable doses of **Ultraviolet rays** cause the body to produce vitamin D, and this is used by doctors to treat vitamin D deficiency and some skin disorders.
- UV lamps can be used to inspect various materials and surfaces. Materials react in different ways when they are exposed to the UV light. Some substances absorb the UV light's energy and change it into visible light. It is called fluorescence.
- The UV beams emit a black light. This black light is useful in many ways. It can be used to inspect splits, breaks, and various defects, inspection of documents, forged bank notes, etc.

14/A2012

- Graphene is frequently in news recently. What is its importance?

1. It is a two-dimensional material and has good electrical conductivity
2. It is one of the thinnest but strongest materials tested so far
3. It is entirely made of silicon and has high optical transparency
4. It can be used as 'conducting electrodes' required for touch screens, LCDs and organic LEDs.

Which of the statements given above are correct?

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

# Graphene

- **Graphene** is an allotrope of carbon in the form of a single layer of atoms in a two-dimensional hexagonal lattice in which one atom forms each vertex.
- **Graphene** has a lot of applications: anti-corrosion coatings and paints, efficient and precise sensors, faster and efficient electronics, flexible displays, efficient solar panels, faster DNA sequencing, drug delivery etc.
- Despite **graphene** being remarkably thin, it's strong enough to protect from a **bullet**.
- **graphene** is super-strong—even **stronger than diamond!** Graphene is believed to be the **strongest** material yet discovered, some 200 times **stronger than steel**.

15/A2012

- Lead, ingested or inhaled, is a health hazard. After the addition of lead to petrol has been banned, what still are the sources of lead poisoning?
  1. Smelting units
  2. Pens and Pencils
  3. Paints
  4. Hair oils and cosmetics

Select the correct answer using the codes given below:

- A) 1,2 and 3 only
- C) 2 and 4 only

- B) 1 and 3 only
- D) 1,2,3 and 4

16/A2012

- With reference to ‘stem cells’, frequently in the news, which of the following statements is/are correct?
  1. Stem cells can be derived from mammals only
  2. Stem cells can be used for screening new drugs
  3. Stem cells can be used for medical therapies.

Select the correct answer using the codes given below:

A) 1 and 2 only  
C) 3 only

B) 2 and 3 only  
D) 1,2 and 3

## Stem Cells

- In multicellular organisms, **stem cells** are undifferentiated or partially differentiated cells that can differentiate into various types of cells and divide indefinitely to produce more of the same stem cell
- They are found in both embryonic and adult organisms
- Stem cells are found both in plants and animals
- Source of stem cells in human; Bone marrow, Fat cells, Umbilical cord blood just after birth
- Stem cells therapy is the use of stem cells to treat or prevent a disease like Diabetes, rheumatoid arthritis, Parkinson's disease, Alzheimer's disease, Stroke, Spinal injury, Repair hearing, Restore vision etc.

17/A2012

- Consider the following statements:  
Chlorofluorocarbons, known as ozone-depleting substances are used
  1. in the production of plastic foams
  2. in the production of tubeless tires
  3. in cleaning certain electronic components
  4. as pressurizing agents in aerosol cans

Which of the statements given above is/are correct?

- A) 1,2 and 3 only
- C) 1,3 and 4 only

- B) 4 only
- D) 1,2,3 and 4



## Chlorofluorocarbons (CFC)

- Chlorofluorocarbons (CFCs) are nontoxic, non-flammable chemicals containing atoms of carbon, chlorine, and fluorine. They are used in the manufacture of aerosol sprays, blowing agents for foams and packing materials, as solvents, and as refrigerants.
- refrigerant CFC is dichlorodifluoromethane,  $\text{CF}_2\text{Cl}_2$  (also known as CFC-12), which boils at  $-30^\circ \text{C}$ .
- When ultraviolet light waves (UV) strike CFC\* ( $\text{CFCl}_3$ ) molecules in the upper atmosphere, a carbon-chlorine bond breaks, producing a chlorine (Cl) atom. The chlorine atom then reacts with an ozone ( $\text{O}_3$ ) molecule breaking it apart and so destroying the ozone.
- Ozone layer's average thickness is about 300 Dobson Units or a layer that is 3 millimetres thick.

18/A2012

- A team of scientists at Brookhaven National Laboratory including those from India created the heaviest anti-matter (anti-helium nucleus). What is/are the implications of the creation of anti-matter?

1. It will make mineral prospecting and oil exploration easier and cheaper
2. It will help probe the possibility of the existence of stars and galaxies made of anti-matter
3. It will help understand the evolution of the universe.

Select the correct answer using the codes given below:

- |           |              |
|-----------|--------------|
| A) 1 only | B) 2 and 3   |
| C) 3 only | D) 1,2 and 3 |

## Antimatter

- **Antimatter** refers to sub-atomic particles that have properties opposite normal sub-atomic particles.  
    **Antimatter** is the opposite of normal matter.
- More specifically, the sub-atomic particles of **antimatter** have properties opposite those of normal matter.
- **Antimatter** is used in medicine.  
    These are injected into the bloodstream, where they are naturally broken down, releasing positrons that meet electrons in the body and annihilate. The annihilations produce gamma rays that are used to construct images.
- Making 1 gram of **antimatter** would require approximately 25 million billion kilowatt-hours of energy and cost over a million billion dollars.

19/A2012

- Which of the following is/are cited by the scientists as evidence /evidences for the continued expansion of universe?
  1. Detection of microwaves in space
  2. Observation of redshift phenomenon in space
  3. Movement of asteroids in space
  4. Occurrence of supernova explosions in space

Select the correct answer using the codes given below:

A) 1 and 2

B) 2 only

C) 1,3 and 4

D) None of the above can be cited as evidence

## Expansion of Universe

- The **expansion of the universe** is the increase in distance between any two given gravitationally unbound parts of the observable **universe** with time.
- It is an intrinsic **expansion** whereby the scale of space itself changes
- Astronomers says that the faster **expansion** rate is due to a mysterious, dark force that is pulling galaxies apart. One explanation for dark energy is that it is a property of space.
- **Dark Energy** is a hypothetical form of **energy** that exerts a negative, repulsive pressure, behaving like the opposite of gravity.

20/A2012

- Electrically charged particles from space travelling at speeds of several hundred km/sec can severely harm living beings if they reach the surface of the Earth. What prevents them from reaching the surface of the Earth?
  - A) The Earth's magnetic field diverts them towards its poles
  - B) Ozone layer around the Earth reflects them back to outer space
  - C) Moisture in the upper layers of atmosphere prevents them from reaching the surface of the Earth
  - D) None of the statements A,B and C given above is correct.

## Charged Particles

- Energetic charged particles originates from solar wind
- These particles are captured by and held around by the magnetic field of our Earth.
- Earth has two such belts.
- Earth's belts extend from an altitude of about 640 to 58,000 KM
- Most of the particles that form the belts are thought to come from solar wind and other particles by cosmic rays. By trapping the solar wind, the magnetic field deflects those energetic particles and protects the atmosphere from destruction.

21/A2012

- With reference to the scientific progress of ancient India, which of the statements given below are correct?
  1. Different kinds of specialized surgical instruments were in common use by 1<sup>st</sup> century AD
  2. Transplant of internal organs in the human body had begun by the beginning of 3<sup>rd</sup> century AD
  3. The concept of cyclic quadrilaterals was known in 7<sup>th</sup> century AD

Select the correct answer using the codes given below:

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



22/A2012

- With reference to the history of ancient India, which of the following was/were common to both Buddhism and Jainism?
  1. Avoidance of extremities of penance and enjoyment
  2. Indifference to the authority of the Vedas
  3. Denial of efficiency of rituals

Select the correct answer using the codes given below:

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

23/A2012

- Which of the following can be essentially the parts of 'Inclusive Governance'?
1. Permitting the Non-Banking Financial Companies to do banking
  2. Establishing effective District Planning Committees in all the districts
  3. Increasing the government spending on public health
  4. Strengthening the Mid-day Meal Scheme

Select the correct answer using the codes given below:

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

## Inclusive Governance

- **Governance is inclusive** when it effectively serves and engages all people; takes into account gender and other facets of personal identity; and when institutions, policies, processes and services are accessible, accountable and responsive to all members of society.
- Governance affects how states manage complex challenges, such as inequality, urbanization, migration, violence, natural resources and climate change.

24/A2012

- The Nagara, the Dravida and the Vesara are the
  - A) three main racial groups of the Indian subcontinent
  - B) three main linguistic divisions into which the languages of India can be classified
  - C) three main styles of Indian temple architecture
  - D) three main musical Gharanas prevalent in India

25/A2012

- The Congress ministries resigned in the seven provinces in 1939, because
  - A) the congress could not form ministries in the other four provinces
  - B) emergence of a 'left wing' in the Congress made the working of the ministries impossible
  - C) there were widespread communal disturbances in their provinces
  - D) None of the statements A,B and C given above is correct

## Congress Ministers Resigned in 1939

- The **Congress ministries resigned** in October and November **1939**, in protest against Viceroy Lord Linlithgow's action of declaring India to be a belligerent in the Second World War without consulting the Indian people.

26/A2012

- With reference to National Rural Health Mission, which of the following are the jobs of 'ASHA' a trained community health worker?
  1. Accompanying women to the health facility for antenatal care checkup
  2. Using pregnancy test kits for early detection of pregnancy
  3. Providing information on nutrition and immunization
  4. Conducting the delivery of baby

Select the correct answer using the codes given below:

A) 1,2 and 3 only

B) 2 and 4 only

C) 1 and 3 only

D) 1,2,3 and 4

27/A2012

- Which of the following is/are the principal features of the Government of India Act, 1919?
  1. Introduction of dyarchy in executive government of the Provinces
  2. Introduction of separate communal electorates for Muslims
  3. Devolution of legislative authority by the centre to the provinces

Select the correct answer using the codes given below:

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



## Government of India Act 1919

- It was an Act of the Parliament of United Kingdom
- It was passed to expand participation of Indians in the government of India
- The Act provided a dual form of government (diarchy) for the major provinces
- Control of some areas like agriculture, health and education was given to local government
- Reserved list remained under the control of the Viceroy. The 'reserved list' included defence (the military), foreign affairs, and communications.

28/A2012

- During Indian freedom struggle, the National Social Conference was formed. What was the reason for its formation?
  - A) Different social reform groups or organizations of Bengal region united to form a single body to discuss the issues of larger interest and to prepare appropriate petitions/representations to the government
  - B) Indian National Congress did not want to include social reforms in its deliberations and decided to form a separate body for such purpose
  - C) Beramji Malabari and MG Ranade decided to bring together all the social reform groups of the country under one organization
  - D) None of the statements A,B and C given above is correct in this context

## National Social Conference

- Indian (National) Social Conference was founded by **M.G. Ranade** and **Raghunath Rao**. It was virtually the social reform cell of the Indian National Congress. Its first session was held in Madras in December 1887.
- The **conference** met every year to discuss **social** evils and ways to remedy them.

29/A2012

- Which of the following parties were established by Dr. B R Ambedkar?
  1. The Peasants and Workers Party of India
  2. All India Scheduled Castes Federation
  3. The Independent Labour Party

Select the correct answer using the codes given below:

- |                 |                 |
|-----------------|-----------------|
| A) 1 and 2 only | B) 2 and 3 only |
| C) 1 and 3 only | D) 1,2 and 3    |

- Which of the following special powers have been conferred on the Rajya Sabha by the Constitution of India?
  - A) To change the existing territory of a State and to change the name of a State
  - B) To pass a resolution empowering the Parliament to make laws in the State List and to create one or more All India Services
  - C) To amend the election procedure of the President and to determine the pension of the President after his/her retirement
  - D) To determine the functions of the Election Commission and to determine the number of Election Commissioners.

31/A2012

- How does the National Rural Livelihood Mission seek to improve livelihood options of rural poor?
  1. By setting up a large number of new manufacturing industries and agribusiness centres in rural areas
  2. By strengthening 'self-help groups' and providing skill development
  3. By supplying seeds, fertilizers, diesel pump sets and micro-irrigation equipment free of cost to farmers

Select the correct answer using the codes given below:

- A) 1 and 2 only
- C) 1 and 3 only

- B) 2 only
- D) 1,2 and 3

## NRLM

- National Rural Livelihoods Mission (NRLM) was launched by the Ministry of Rural Development (MoRD), Government of India in June 2011.
- Aided in part through investment support by the World Bank, the Mission aims at creating efficient and effective institutional platforms of the rural poor, enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services.
- This scheme is focused on promoting self-employment and organization of rural poor. This is one of the world's largest initiatives to improve the livelihood of poor.
- 25th September was observed as **Antyodaya Diwas** across the country to mark the birth anniversary of Pandit Deendayal Upadhyaya. **Antyodaya** means uplifting of the weakest section of the society.

32/A2012

- The Multi-dimensional Poverty Index developed by Oxford Poverty and Human Development Initiative with UNDP support covers which of the following?
  1. Deprivation of education, health, assets and services at household level
  2. Purchasing power parity at national level
  3. Extent of budget deficit and GDP growth rate at national level

Select the correct answer using the codes given below:

- |                 |                 |
|-----------------|-----------------|
| A) 1 only       | B) 2 and 3 only |
| C) 1 and 3 only | D) 1,2 and 3    |



## The Global Multidimensional Poverty Index

- The **Global Multidimensional Poverty Index (MPI)** was developed in 2010 by the **Oxford Poverty & Human Development Initiative (OPHI)** and the United Nations
- Development Programme and uses health, education and standard of living **indicators** to determine the degree of **poverty** experienced by a population.
- The **MPI** reflects both the incidence of multidimensional deprivation (a headcount of those in multidimensional poverty) and its intensity (the average deprivation score experienced by poor people).
- The 2018 Statistical Update presents estimates for 105 developing countries with a combined population of 5.7 billion (77% of the world total). About 1.3 billion people in the countries covered—23.3% of their entire population—lived in multidimensional poverty between 2006 and 2016-17.

33/A2012

- Which of the following is/are among the noticeable features of the recommendations of the Thirteenth Finance Commission?
  1. A design for the Goods and Services Tax, and a compensation package linked to adherence to the proposed design
  2. A design for the creation of lakhs of jobs in the next ten years in consonance with India's demographic dividend
  3. Devolution of a specified share of central taxes to local bodies as grants

Select the correct answer using the codes given below:

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

34/A2012

- What is/are the recent policy initiative/s of Govt. of India to promote the growth of manufacturing sector?
  1. Setting up of National Investment and Manufacturing Zones
  2. Providing the benefit of single window clearance
  3. Establishing the technology Acquisition and Development Fund

Select the correct answer using the codes given below:

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

## 35/A2012

- Which of the following are the methods of Parliamentary control over public finance in India?
  1. Placing Annual Financial Statement before the Parliament
  2. Withdrawal of moneys from Consolidated Fund of India only after passing the Appropriation Bill
  3. Provisions of supplementary grants and vote-on-account
  4. A periodic or at least a mid year review of programme of Government against macroeconomic forecasts and expenditure by a Parliamentary Budget office
  5. Introducing Finance Bill in the Parliament

Select the correct answer using the codes given below:

A) 1,2,3 and 5 only

B) 1,2 and 4 only

C) 3,4 and 5 only

D) 1,2,3,4 and 5

36/A2012

- Mahatma Gandhi undertook fast unto death in 1932, mainly because
  - A) Round Table Conference failed to satisfy Indian political aspirations
  - B) Congress and Muslim League had differences of opinion
  - C) Ramsay Macdonald announced the Communal Award
  - D) None of the statements A,B and C given above is correct in this context

37/A2012

- With reference to Ryotwari Settlement, consider the following statements:
  1. The rent was paid directly by the peasants to the Government
  2. The Government gave Pattas to Ryots
  3. The lands were surveyed and assessed before being taxed

which of the statements given above is/are correct?

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

38/A2012

- Consider the following specific stages of demographic transition associated with economic development:
  1. Low birthrate with low death rate
  2. High birthrate with high death rate
  3. High birthrate with low death rate

Select the correct order of the above stages using the codes given below:

A) 1,2 3  
C) 2,3,1

B) 2,1,3  
D) 3,2,1

39/A2012

- In India, in the overall Index of Industrial Production, the Indices of Eight Core Industries have a combined weight of 37.9% which of the following are among those Eight Core Industries?
  1. Cement
  2. Fertilizers
  3. Natural Gas
  4. Refinery products
  5. Textiles

Select the correct answer using the codes given below:

- |                     |                   |
|---------------------|-------------------|
| A) 1 and 5 only     | B) 2,3 and 4 only |
| C) 1,2,3 and 4 only | D) 1,2,3,4 and 5  |



40/A2012

- Which of the following provisions of the Constitution of India have a bearing on Education?
  1. Directive Principles of State Policy
  2. Rural and Urban Local Bodies
  3. Fifth Schedule
  4. Sixth Schedule
  5. Seventh Schedule

Select the correct answer using the codes given below:

- |                   |                   |
|-------------------|-------------------|
| A) 1 and 2 only   | B) 3,4 and 5 only |
| C) 1,2 and 5 only | D) 1,2,3,4 and 5  |

41/A2012

- Government of India encourages the cultivation of ‘sea buckhorn’. What is the importance of this plant?
  1. It helps in controlling soil erosion and in preventing desertification
  2. It is a rich source of biodiesel
  3. It has nutritional value and is well-adapted to live in cold areas of high altitudes
  4. Its timber is of great commercial value

Which of the statements given above is/are correct?

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

## Sea Buckthorn

- **Sea buckthorn** is a plant. The leaves, flowers, seeds, and fruits are used to make medicine.
- A tea containing **sea buckthorn** leaves is used as a source of vitamins, antioxidants, protein building blocks (amino acids), fatty acids and minerals; for improving blood pressure and lowering cholesterol; preventing and controlling blood vessel diseases; and boosting immunity
- In ancient times, leaves and young branches from **sea buckthorn** were supposedly fed as a remedy to horses to support weight gain and appearance of the coat.
- **Sea buckthorn** oil helps prevent the development of **wrinkles** as well as shields the skin's surface from the sun's UV rays.

42/A2012

- Which of the following is the chief characteristic of mixed farming?
  - A) Cultivation of both cash crops and food crops
  - B) Cultivation of two or more crops in the same field
  - C) Rearing of animals and cultivation of crops together
  - D) None of the above

## Mixed Farming

- In this method of cultivation crops are grown and animals are reared on the same farm land.
- A variety of crops such as cereals and vegetables are grown and alongside, the farmers keep dairy animals to get milk.
- Sometimes poultry is also kept.
- The natural manure provided by the animals helps to maintain fertility of the farm.

43/A2012

- A particular State in India has the following characteristics:
  1. It is located on the same Latitude which passes through northern Rajasthan
  2. It has over 80% of its area under forest cover
  3. Over 12% of forest cover constitutes Protected Area Network in this State

Which one among the following States has all the above characteristics?

- A) Arunachal Pradesh
- B) Assam
- C) Himachal Pradesh
- D) Uttarakhand

44/A2012

- Consider the following crops of India:
  1. Cowpea
  2. Green Gram
  3. Pigeon pea

Which of the above is/are used as pulse, fodder and green manure?

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

## Cowpea

- Cowpea may be used green or as dry fodder. It also is used as a green manure crop, a nitrogen fixing crop, or for erosion control. Similar to other grain legumes, cowpea contains trypsin inhibitors which limit protein utilization.
- A yellow coloured lentil flat on one side, oblong in shape, used widely in Indian cooking. Pigeon pea is commonly known as arhar dal or split toor (tuvar) dal.
- Split moong beans or green moong dal is green gram that has been split but not skinned. Since the husk is not removed completely, the green colour is retained. The splitting is done in a mill. Green moong dal a traditional ingredient in Indian cooking, often used in curries.



45/A2012

- Consider the following factors:
  1. Rotation of the Earth
  2. Air Pressure and wind
  3. Density of ocean water
  4. Revolution of Earth

Which of the above factors influence the ocean currents?

- A) 1 and 2 only
- C) 1 and 4

- B) 1,2 and 3
- D) 2,3, and 4

## Ocean Currents

- The movements of water in oceans can be categorized into currents, waves, and tides. Among these, ocean currents are the large masses of surface water that circulate in regular patterns around the oceans.
- Depending upon their temperature, ocean currents can be classified into warm currents and cold currents.
- *Warm currents* flow from equatorial regions towards the polar regions and hence have a higher surface temperature. [from lower latitudes to higher latitudes]. These currents flow in the clockwise direction in the northern hemisphere and in the anti-clockwise direction in the southern hemisphere.
- *Cold currents* flow from polar regions towards the equator and have a lower surface temperature [ from higher latitudes to lower latitudes]. They flow in the anti-clockwise direction in the northern hemisphere and in the clockwise direction in the southern hemisphere.
- The following are the factors responsible for ocean currents:
  - The Planetary winds,
  - Temperatures,
  - Salinity,
  - The earth's rotation

46/A2012

- With reference to the wetlands of India, consider the following statements:
  1. The country's total geographical area under the category of wetlands is recorded more in Gujarat as compared to other States.
  2. In India, the total geographical area of coastal wetlands is larger than that of inland wetlands.

Which of the statements given above is/are correct?

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

## Wetlands

- India has totally 27, 403 wetlands, of which 23,444 are inland wetlands and 3,959 are coastal wetlands.
- Wetlands occupy 18.4% of the country's area (excluding rivers), of which 70 % are under paddy cultivation.
- Vembanad Lake (in Kerala) also known as Vembanad Kayal or Vembanad Kol wetland is the largest wetland in India.
- Ramsar has declared 10 more wetland sites from India as sites of international importance for the conservation of global biological diversity,
- As of February 2020 there are 37 recognized Ramsar sites in India.
- The Ramsar convention entered into force in India on 1 February 1982.
- The 10 new Ramsar sites of India announced by the Ministry of Environment, Forest and Climate Change (MoEFCC) includes: Nawabganj, Parvati Agra, Saman, Samaspur, Sandi and Sarsai Nawar (Uttar Pradesh)

## Wetlands

- Renuka Wetland (This is smallest wetland of India)
- Manmade Ramsar site: Harike Wetland and the lake were formed by constructing the head works across the Sutlej river, in 1953.
- The Pantanal (Portuguese pronunciation: [pẽta'naw]) is a natural region encompassing the world's largest tropical wetland area.
- The highest number of such identified wetlands are in Uttar Pradesh (16) followed by Madhya Pradesh (13), Jammu & Kashmir (12), Gujarat (8), Karnataka (7) and West Bengal(6).
- Gujarat comes out on top with the largest amount of its landmass identified as wetlands of different kinds. Gujarat is followed by Andhra Pradesh, Uttar Pradesh, West Bengal and Maharashtra in that order.
- In 1981, Chilika Lake was designated the first Indian wetland of international importance under the Ramsar Convention.

47/A2012

- Consider the following crops of India:
  1. Groundnut
  2. Sesamum
  3. Pearl millet

Which of the above is/are predominantly rainfed crop/crops?

- A) 1 and 2 only
- C) 3 only

- B) 2 and 3 only
- D) 1,2 and 3

## Rainfed Crops

- In **India**, about 60% of total net sown area comes under **rainfed** lands. **Rainfed crops** account for 48 percent area under **food crops** and 68 percent under **non-food crops**. **India** ranks first among the **rainfed** agricultural countries of the world in terms of both extent and value of produce.
- Ex. Cotton, Sorghum, Pearl millet, Maize, Groundnut
- **Groundnut** is the principal vegetable oil **crop** in **India** and occupies the top slot in terms of area as well as production of total oilseeds in the country. However, about 85 percent area under **groundnut** remains **rainfed** of which nearly 80 percent comes under dryland where irrigation facilities do not exist at all.

48/A2012

- When you travel in Himalayas, you will see the following:
  1. Deep gorges
  2. U-turn river courses
  3. Parallel mountain ranges
  4. Steep gradients causing land sliding

Which of the above can be said to be the evidences for Himalayas being young fold mountains?

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



## Fold Mountains

- **Fold mountains are formed** when two plates move together. This can be where two continental plates move towards each other or a continental and an oceanic plate.
- The movement of the two plates forces sedimentary rocks upwards into a series of **folds**.
- Fold mountains are the most common type of mountain in the world. Some of the most famous ranges are **the Himalayas, Andes, and Alps**.
- The Himalayan range was formed 25 million years ago when the Indo-Australian plate collided with the Eurasian plate.

## Fold Mountains

- The **young fold mountains** have rugged relief features.
- **Young fold mountains** have high peaks.
- **Old fold mountains** are usually lower elevation and can appear more like rolling hills
- **Young Fold Mountains** have steeper slopes and deeper valleys.
- **Old Fold Mountains**, due to the erosional activities of the exogenic forces, these mountains have gentle slopes. Ex. Aravali Range

49/A2012

- Normally, the temperature decreases with the increase in height from the Earth's surface, because
  1. the atmosphere can be heated upwards only from the Earth's surface
  2. there is more moisture in the upper atmosphere
  3. the air is less dense in the upper atmosphere

Select the correct answer using the codes given below:

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

50/A2012

- The acidification of oceans is increasing. Why is this phenomenon a cause of concern?
  1. The growth and survival of calcareous phytoplankton will be adversely affected
  2. the growth and survival of coral reefs will be adversely affected
  3. The survival of some animals that have phytoplanktonic larvae will be adversely affected
  4. The cloud seeding and formation of clouds will be adversely affected

Which of the statements given above is/are correct?

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

## Acidification of Oceans

- **Ocean acidification** reduces the amount of carbonate, a key building block in seawater.
- Many marine organisms--such as **coral**, clams, mussels, sea urchins, barnacles, and certain microscopic plankton--rely on equilibrated chemical conditions and pH levels in the ocean to build their calcium-based shells and other structures.
- The existing shells may begin to dissolve
- **Ocean acidification** is mainly caused by carbon dioxide gas in the atmosphere dissolving into the **ocean**.
- Solution: cut our global warming emissions

- In India, other than ensuring that public funds are used efficiently and for intended purpose, what is the importance of the office of Comptroller and Auditor General (CAG)
  1. CAG exercises exchequer control on behalf of the Parliament when the President of India declares national emergency/ financial emergency
  2. CAG reports on the execution of projects or programmes by the ministries are discussed by the Public Accounts Committee
  3. Information from CAG reports can be used by investigating agencies to press charges against those who have violated the law while managing public finances
  4. While dealing with the audit and accounting of government companies, CAG has certain judicial powers for prosecuting those who violate by law.

Which of the statements given above is/are correct?

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

## CAG

- The Constitution of India [Article 148] provides for an independent office to the CAG of India. He or she is the head of Indian Audit and Accounts Department. He/she has a duty to uphold the Constitution of India and laws of the Parliament to safeguard the interests of the public exchequer.
- The CAG is appointed by the President under his hand and seal.
- The main function of CAG is to audit accounts of govt and to comment on wastefulness or extravagance of expenditure and technicality or legally receipts of revenue.
- CAG is appointed by the President by warrant under his hand and seal and provided with tenure of 6 years or 65 years of age, whichever is earlier.
- CAG can be removed by the President only in accordance with the procedure mentioned in the Constitution that is the manner same as removal of a Supreme Court Judge.
- CAG can't address the parliament.
- CAG appears before many standing, select, joint parliamentary committees.
- CAG doesn't audit the defence accounts of India.

52/A2012

- The endeavor of Janani Suraksha Yojana Programme is
  1. to promote institutional deliveries
  2. to provide monetary assistance to the mother to meet the cost of delivery
  3. to provide for wage loss due to pregnancy and confinement.

Which of the statements given above is/are correct?

- A) 1 and 2 only
- C) 3 only

- B) 2 only
- D) 1,2 and 3



## Janani Suraksha Yojana

- Janani Suraksha Yojana (JSY) is a safe motherhood intervention under the National Health Mission.
- It is being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among poor pregnant women.
- The scheme, launched on 12 April 2005, is under implementation in all states and Union Territories (UTs), with a special focus on Low Performing States (LPS).
- JSY is a centrally sponsored scheme, which integrates cash assistance with delivery and post-delivery care. The Yojana has identified Accredited Social Health Activist (ASHA) as an effective link between the government and pregnant women.

53/A2012

- The Prime Minister of India, at the time of his /her appointment
  - A) need not necessarily be a member of one of the Houses of The Parliament but must become a member of one of the Houses within six months
  - B) need not necessarily be a member of one of the Houses of the Parliament but must become a member of the Lok Sabha within six months
  - C) must be a member of the Houses of the Parliament
  - D) must be a member of the Lok Sabha

54/A2012

- With reference to the Delimitation Commission, consider the following statements:
  1. The orders of the Delimitation Commission cannot be challenged in a Court of Law
  2. When the orders of the Delimitation Commission are laid before the Lok Sabha or State Legislative Assembly, they cannot effect any modifications in the orders.

Which of the statements given above is/are correct?

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

## Delimitation Commission of India

- The Delimitation commission or Boundary commission of India is a commission established by the GOI under the provisions of the Delimitation Commission Act.
- The main task of the commission is redrawing the boundaries of the various assembly and Lok Sabha constituencies based on a recent census. The representation from each State is not changed during this exercise. However, the number of SC and ST seats in a state are changed in accordance with the census. The present delimitation of constituencies has been done on the basis of 2001 Census under the provisions of Delimitation Act, 2002.
- The Commission is a powerful and independent body whose orders cannot be challenged in any court of Law. The orders are laid before the Lok Sabha and the respective State Legislative Assemblies.
- However, modifications are not permitted.

55/A2012

- Consider the following:
  1. Hotels and Restaurants
  2. Motor transport undertakings
  3. Newspaper establishments
  4. Private medical institutions

The employees of which of the above can have the 'Social Security' coverage under Employees State Insurance Scheme?

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

## Employees' State Insurance

- **Employees' State Insurance**(abbreviated as ESI) is a self-financing social security and health insurance scheme for Indian workers.
- The fund is managed by the Employees' State Insurance Corporation (ESIC) according to rules and regulations stipulated in the ESI Act 1948.
- ESIC is a Statutory Body and Administrative Ministry is Ministry of Labour and Employment, GOI.
- The Act protect the interest of workers in contingencies such as sickness, maternity, temporary or permanent physical disablement, death due to employment injury resulting in loss of wages or earning capacity. The Act also guarantees reasonably good medical care to workers and their immediate dependents.

## ESI Act

- The act was initially intended for factory workers but later became applicable to all establishments having 10 or more workers. As on 31 March 2016, the total beneficiaries are 82.8 million
- The benefits provided to the employees under the Act are also in conformity with ILO conventions.
- Employees' State Insurance Corporation (ESIC), established by ESI Act, is an autonomous corporation
- The corporation can raise loans and take measures for discharging such loans with the prior sanction of the central government and it can acquire both movable and immovable property and all incomes from the property shall vest with the corporation.

## ESI Act

- Benefits: Medical benefit, Sickness benefit, Maternity benefit, Disablement benefit, Dependants benefit, Funeral expenses, Rehabilitation allowance
- For all employees earning ₹21,000 (US\$290) or less per month as wages, the employer contributes 3.25% and the employee contributes 0.75%, total share 4%.
- This fund is managed by the ESI Corporation (ESIC) according to rules and regulations stipulated there in the ESI Act 1948, which oversees the provision of medical and cash benefits to the employees and their family.



56/A2012

- According to the Constitution of India, it is the duty of the President of India to cause to be laid before the Parliament which of the following?
  1. The Recommendations of the Union Finance Commission
  2. The Report of the Public Accounts Committee
  3. The report of the Comptroller and Auditor General
  4. The report of the National Commission for scheduled castesSelect the correct answer using the codes given below:

A) 1 only

B) 2 and 4 only

C) 1,3,4 only

D) 1,2,3 and 4

57/A2012

- A deadlock between the Lok Sabha and the Rajya Sabha calls for a joint sitting of the Parliament during the passage of

1. Ordinary legislation
2. Money Bill
3. Constitution Amendment Bill

Select the correct answer using the codes given below:

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

## Joint Session of the Parliament

- In India, if an ordinary bill has been rejected by any house of the **parliament** and if more than six months have elapsed, the President may summon a **joint session** for purpose of passing the bill. The bill is passed by a simple majority of a **joint sitting**.
- The **joint sitting of the Parliament** is called under (Article 108) and is presided over by the Speaker or, in his absence, by the Deputy Speaker of the Lok Sabha or in his absence, the Deputy-Chairman of the Rajya Sabha.
- A bill passed by both Houses but pending assent of the **president** does not lapse.

58/A2012

- How do District Rural Development Agencies (DRDAs) help in the reduction of rural poverty in India?
  1. DRDAs act as Panchayati Raj Institutions in certain specified backward regions of the country
  2. DRDAs undertake area specific scientific study of the causes of poverty and malnutrition and prepare detailed remedial measures
  3. DRDAs secure inter-sectoral and inter-departmental coordination and cooperation for effective implementation of anti-poverty programmes
  4. DRDAs watch over and ensure effective utilization of the funds intended for anti-poverty programmes

Which of the statements given above is/are correct?

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

## DRDA

- Scheme through which the Central share of fund is directly released to the District Rural Development Agency (DRDA). The DRDA is the principal organ at the district level to manage and oversee the implementation of different anti-poverty programmes of the Ministry of Rural Development.
- District Rural Development Agencies (DHDAs) help in the reduction of rural poverty in India as acting as Panchayati Raj Institutions in certain specified backward regions of the country.
- DRDAs watch over and ensure effective utilisation of the funds intended for anti-poverty Programmes.

59/A2012

- Which of the following is/are among the Fundamental Duties of citizens laid down in the Indian Constitution?
  1. To preserve the rich heritage of our composite culture
  2. To protect the weaker sections from social injustice
  3. To develop the scientific temper and spirit of inquiry
  4. To strive towards excellence in all spheres of individual and collective activity

Select the correct answer using the codes given below:

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

60/A2012

- What is the provision to safeguard the autonomy of the Supreme Court of India?
  1. While appointing the Supreme Court Judges, the President of India has to consult the Chief Justice of India
  2. The Supreme Court Judges can be removed by the Chief Justice of India only
  3. The salaries of the judges are charged on the Consolidated Fund of India to which the legislature does not have to vote
  4. All appointments of officers and staffs of the Supreme Court of India are made by the Government only after consulting the Chief Justice of India.

Which of the statements given above is/are correct?

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

## Autonomy of Supreme Court

- The Union Cabinet and Parliament have almost no role to play in the appointment of judges to the Supreme Court or High Courts.
- A judge of the Supreme Court can be removed under the Constitution only on grounds of proven misconduct or incapacity and by an order of the President of India, after a notice signed by at least 100 members of the Lok Sabha or 50 members of the Rajya Sabha is passed by a two-third majority in each House of the Parliament.
- The **judges** of the Supreme Court and the High Courts are appointed by the President. The **constitution** of India has made it obligatory on the President to make the appointments in consultation with the highest **judicial** authorities.



61/A2012

- To meet its rapidly growing energy demand some opine that India should pursue research and development on thorium as the future fuel of nuclear energy. In this context, what advantage does thorium hold over uranium?

1. Thorium is far more abundant in nature than uranium
2. On the basis of per unit mass of mined mineral, thorium can generate more energy compared to natural uranium
3. Thorium produces less harmful waste compared to uranium

Which of the statements given above is/are correct?

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

# Thorium

- **Thorium** is a weakly radioactive metallic chemical element with the symbol Th and atomic number 90.
- **Thorium** is silvery and tarnishes black when it is exposed to air, forming **thorium** dioxide; it is moderately hard, malleable, and has a high melting point.
- **Thorium** cannot in itself power a reactor; unlike natural uranium, it does not contain enough fissile material to initiate a nuclear chain reaction. As a result it must first be bombarded with neutrons to produce the highly radioactive isotope uranium-233. We can't make Thorium bomb as not having enough fissile power.
- **Thorium** is also used to coat tungsten filaments used in electronic devices, such as television sets.

62/A2012

- The increasing amount of carbon dioxide in the air is slowly raising the temperature of the atmosphere because it absorbs
  - A) the water vapour of the air and retains its heat
  - B) the ultraviolet part of the solar radiation
  - C) all the solar radiations
  - D) the infrared part of the solar radiation

## Carbon Dioxide as greenhouse gas

- **Carbon dioxide (CO<sub>2</sub>)** is also an important greenhouse gas. It has a long lifetime in Earth's atmosphere.
- **Carbon dioxide strongly absorbs energy** with a wavelength of 15 μm (micro-meters).
- This makes **carbon dioxide** a good absorber of wavelengths falling in the **infrared radiation** region of the spectrum.
- Molecules of **carbon dioxide (CO<sub>2</sub>)** can **absorb** energy from **infrared (IR), (heat) radiation**.
- **Carbon dioxide** is the most responsible of the greenhouse effect since it **reflects** infrared radiated nightly from the Earth enhancing minimal average temperatures, but it **reflects** also infrared radiation coming from the sun during the day.

63/A2012

- Which one of the following sets of elements was primarily responsible for the origin of life on the Earth?
  - A) Hydrogen, Oxygen, Sodium
  - B) Carbon, Hydrogen, Nitrogen
  - C) Oxygen, Calcium, Phosphorus
  - D) Carbon, Hydrogen, Potassium

## Elements responsible for origin of life on Earth

- **Carbon, hydrogen and nitrogen** were primarily responsible for the origin of life on earth.
- All organisms are built from the same six essential elemental ingredients: **carbon, hydrogen, nitrogen, oxygen, phosphorus and sulphur** (CHNOPS).
- These form the nucleic acids, proteins, carbohydrates, and lipids that are the fundamental components of living matter.

64/A2012

- What are the reasons for the people's resistance to the introduction of Bt brinjal in India?
  1. Bt brinjal has been created by inserting a gene from a soil fungus into its genome
  2. The seeds of Bt brinjal are terminator seeds and therefore, the farmers have to buy the seeds before every season from the seed companies
  3. There is an apprehension that the consumption of Bt brinjal may have adverse impact on health
  4. There is some concern that the introduction of Bt brinjal may have adverse effect on the biodiversity

Select the correct answer using the codes given below:

A) 1,2 and 3 only

B) 2 and 3 only

C) 3 and 4 only

D) 1,2,3 and 4

## Bt Brinjal

- The genetically modified **brinjal** is created by inserting a crystal protein gene (Cry1Ac) from the soil bacterium *Bacillus thuringiensis* into the genome of **brinjal**.



65/A2012

- Other than resistance to pests, what are the prospects for which genetically engineered plants have been created?
  1. To enable them to withstand drought
  2. To increase the nutritive value of the produce
  3. To enable them to grow and do photosynthesis in spaceships and space stations
  4. To increase their shelf life

Select the correct answer using the codes given below:

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

66/A2012

- Consider the following statements:  
The most effective contribution made by Dadabhai Naoroji to the cause of Indian National Movement was that he
  1. exposed the economic exploitation of India by the British
  2. interpreted the ancient Indian texts and restored the self-confidence of Indians
  3. stressed the need for eradication of all the social evils before anything else

Which of the statements given above is/are correct?

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

## Book by Dadabhai Naoroji

- His **book** Poverty and Un-British Rule in India (1901) brought attention to the draining of India's wealth into Britain. In it he explained his wealth drain theory.
- He stated that Britain was draining India's wealth
- The **drain** of wealth was the portion of India's wealth and economy that was not available to Indians for consumption.
- **Dadabhai Naoroji** is also popularly recalled as the 'Grand Old Man of India'

67/A2012

- With reference to Dhrupad, one of the major traditions of India that has been kept alive for centuries, which of the following statements are correct?

1. Dhrupad originated and developed in the Rajput kingdoms during the Mughal period
2. Dhrupad is primarily a devotional and spiritual music
3. Dhrupad Alap uses Sanskrit syllables from Mantras

Select the correct answer using the codes given below

- A) 1 and 2 only
- C) 1,2 and 3

- B) 2 and 3 only
- D) None of the above is correct

## Dhrupad

- **Dhrupad** is a genre in Hindustani classical music
- **Dhrupad** is the oldest surviving classical style of Hindustani (or North Indian) vocal music. Its name is derived from dhruva-pada, simply meaning "refrain," and today denotes both a form of poetry and a style of music in which the poetry is sung.
- The Dhrupad tradition is derived since 14th Century from the saints of Braj (Mathura) namely Swami Haridas, Surdas, Govind Swami, Asht Sakha and followed by Tansen and Baiju Bawara.
- The four styles of Dhrupad: the Gauri (Gauhar), **Khandar**, Nauhar, and Dagar,

68/A2012

- How do you distinguish between Kuchipudi and Bharatnatyam dances?
  1. Dances occasionally speaking dialogues is found in Kuchipudi dance but not in Bharatnatyam
  2. Dancing on the brass plate by keeping the feet on its edges is a feature of Bharatnatayam but Kuchipudi dance does not have such a form of movements

Which of the statements given above is/are correct?

- A) 1 only                      B) 2 only  
C) Both 1 and 2              D) Nether 1 nor 2

## Kuchipudi VS. Bharatanatyam

- Bharatnatyam is a form of Classical dance from Tamil Nadu whereas Kuchipudi is a classical dance form from Andhra Pradesh.
- Bharatnatyam has more sculptured poses whereas Kuchipudi has more rounded poses.
- Kuchipudi replicates man's undying desire to unite with God.
- Kuchipudi is a dance-drama performance, with its roots in the ancient Hindu Sanskrit text of Natya Shastra.

## Kathakali

- Kathakali is an impressive form of classical dance originated more than 500 years ago in the southern state of Kerala. Kathakali is a perfect combination of dance, drama, music and religious theme.

69/A2012

- With reference to the religious history of medieval India, the Sufi mystics were known to pursue which of the following practices?
  1. Meditation and control of breath
  2. Severe ascetic exercises in a lonely place
  3. Recitation of holy songs to arouse a state of ecstasy in their audience

Select the correct answer using the codes given below

A) 1 and 2 only  
C) 3 only

B) 2 and 3 only  
D) 1,2 and 3



## Sufism

- **Sufism** is a form of **Islamic** mysticism that emphasizes introspection and spiritual closeness with God
- **Sufis** seek the truth of divine love and knowledge through direct personal experience with God.
- They attempt to reach a state of fana (a temporary ecstatic intoxication of divine love) and baqa (a prolonged condition of complete "human in-dwelling with God").

70/A2012

- The Rowlatt Act aimed at
  - A) compulsory economic support to war efforts
  - B) imprisonment without trial and summary procedures for trial
  - C) Suppression of the Khilafat Movement
  - D) imposition of restrictions on freedom of the press

## Rowlatt Act 1919

- **Rowlatt Acts**, (February 1919), legislation passed by the Imperial Legislative Council, the legislature of British India. The acts allowed certain political cases to be tried without juries and permitted internment of suspects without trial.
- The **Rowlatt Act** was **opposed** in the following manner. i) Rallies were organised in various cities. ii) Workers went on strikes in railway workshops. iii) Shops were closed down.
- The **Rowlatt Act** came to be **repealed** in 1922

71/A2012

- The Lahore Session of the Indian National Congress (1929) is very important in history, because
  1. the congress passed a resolution demanding complete independence
  2. the rift between the extremists and moderates was resolved in this session
  3. a resolution was passed rejecting the two-nation theory in that Session

Which of the statements given above is/are correct?

- A) 1 only                      B) 2 and 3  
C) 1 and 3                     D) None of the above

## Lahore Session of INC

- The 1929 Lahore session under the presidency of **Jawaharlal Nehru** holds special significance as in this session "Purna Swaraj" (complete independence) was declared as the goal of the INC.
- The flag of India was hoisted by Jawaharlal Nehru on 31 December 1929 on the banks of Ravi river, in **Lahore**, modern-day Pakistan.
- The Indian National **Congress**, on 19 December 1929, passed the historic 'Purna Swaraj' - (total independence) resolution - at its **Lahore session**.
- A public declaration was made on 26 January 1930

72/A2012

- Lord Buddha's image is sometimes shown with the hand gesture called 'Bhumisparsha Mudra'. It symbolizes
  - A) Buddha's calling of the Earth to watch over Mara and to prevent Mara from disturbing his meditation
  - B) Buddha's calling of the Earth to witness his purity and chastity despite the temptations of Mara
  - C) Buddha's reminder to his followers that they all arise from the Earth and finally dissolve into the Earth, and thus life is transitory
  - D) Both the statements A and B are correct in this context

## Bhumisparsha

- Mara demands that Gautama produce a witness to confirm his spiritual awakening. The **Buddha** simply touches the earth with his right hand, and the Earth itself immediately responds: “I am your witness.” Mara and his minions vanish. The morning star appears in the sky.
- In **Buddhist** cosmology, **Mara** is associated with death, rebirth and desire. Nyanaponika Thera has described **Mara** as "the personification of the forces antagonistic to enlightenment."

73/A2012

- The religion of early Vedic Aryans was primarily of
  - A) Bhakti
  - B) image worship and Yajnas
  - C) worship of nature and Yajnas
  - D) worship of nature and Bhakti



## Religion of Aryans

- Vedic deities were predominantly Indra, Agni (fire), Soma, Mitra - Varuna, Aryaman, Bhaga & Amsa.
- They used to worship nature deities such as Surya (Sun), Vayu (Wind) and Prithvi (Earth). Rivers specially Saraswati, were worshipped as the goddess.
- Yajna was the mode of worship, which was the performance of sacrifices.
- It included Vedic chants, samans singing and sacrificial mantra i.e. yajus. Yajna involved sacrificing havan samagri in the fire while chanting the Vedic mantra.

74/A2012

- Which of the following statements is/are correct regarding Brahma Samaj?
  1. It opposed idolatry
  2. It denied the need for a priestly class for interpreting the religious texts
  3. It popularized the doctrine that the Vedas are infallible

Select the correct answer using the codes given below:

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

## Brahmo Samaj

- the belief that there is one God, who is omnipresent
- The **Brahmo Samaj** drew its inspiration from the **Vedas, Upanishads** and other holy scriptures of ancient India, whereas the **Arya Samaj** believes in the **Vedas** only.

75/A2012

- The Reserve Bank of India (RBI) acts as a bankers' bank. This would imply which of the following?
  1. Other banks retain their deposits with RBI
  2. The RBI lends funds to the commercial banks in times of need
  3. The RBI advises the commercial banks on monetary matters.

Select the correct answer using the codes given below:

- A) 2 and 3 only
- C) 1 and 3 only

- B) 1 and 2 only
- D) 1,2 and 3

## RBI main functions

- Key functions of RBI are,
  - banker's bank,
  - the custodian of foreign reserve,
  - controller of credit and to manage printing and supply of currency notes in the country.
- \*RBI supervises the functioning of formal source of loans. \*RBI monitors the banks in actually maintaining cash balance. \*It also sees that banks give loans not just for profit making and traders but also to small borrowers, small cultivators etc.

76/A2012

- Under which of the following circumstances may capital gains arise?
  1. When there is an increase in the sales of a product
  2. When there is a natural increase in the value of the property owned
  3. When you purchase a painting and there is a growth in its value due to increase in its popularity

Select the correct answer using the codes given below:

- |           |                 |
|-----------|-----------------|
| A) 1 only | B) 2 and 3 only |
| C) 2 only | D) 1,2and 3     |

## Capital Gain

- **Capital gain** is a rise in the value of a **capital asset** (investment or real estate) that gives it a higher worth than the purchase price.
- The **gain** is not realized until the asset is sold.
- A **capital gain** may be short-term (one year or less) or long-term (more than one year) and must be claimed on income taxes.

## Capital

- **Capital** generally refers to financial wealth, especially that used to start or maintain a business. In classical economics, **capital** is one of the four factors of production. The others are land, labor and organization.
- **Capital** is referred to buildings or machinery which are necessary to produce goods or to make companies more efficient, but which do not make money directly.
- Money is not **capital** because it is not a productive resource. While **money** can be used to buy **capital**, it is the **capital good** (things such as machinery and tools) that is used to produce goods and services.
- **Money** merely facilitates trade, but it is not in itself a productive resource.



77/A2012

- Which of the following measures would result in an increase in the money supply in the economy?
  1. Purchase of government securities from the public by the Central Bank
  2. Deposit of currency in commercial banks by public
  3. Borrowing by the Government from the Central Bank
  4. Sale of government securities to the public by the Central Bank

Select the correct answer using the codes given below:

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

## Money Supply

- Money Supply is the total amount of money in circulation or in existence in a country.
- **Cash is the most liquid form of money.** Ideally, the fact that cash can easily be converted to assets is the reason behind the liquidity for cash.
- **Money supply** consists of various **components** as follows: Currency, demand and time deposits in commercial banks
- A **time deposit** or **term deposit** is an interest-bearing bank **deposit** with a specified period of maturity.

78/A2012

- Which of the following would include Foreign Direct Investment in India?
  1. Subsidiaries of foreign companies in India
  2. Majority foreign equity holding in Indian companies
  3. Companies exclusively financed by foreign companies
  4. Portfolio investment

Select the correct answer using the codes given below:

- A) 1,2,3 and 4
- C) 1 and 3 only

- B) 2 and 4 only
- D) 1,2 and 3 only

## Portfolio Investment

- **Portfolio investments** are investments in the form of a group (**portfolio**) of assets, including transactions in equity, securities, such as common stock, and debt securities, such as banknotes, bonds, and debentures.
- The term **portfolio investments** covers a wide range of asset classes including stocks, government bonds, corporate bonds, real estate investment trusts (REITs), mutual funds, exchange-traded funds (ETFs), and bank certificates of deposit.
- A **foreign direct investment (FDI)** is an investment made by a firm or individual in one country into business interests located in another country. **Foreign portfolio investment (FPI)** instead refers to investments made in securities and other financial assets issued in another country.

79/A2012

- Consider the following statements:  
The price of any currency in International market is decided by the:
  1. World Bank
  2. demand for goods/services provided by the country concerned
  3. stability of the government of the concerned country
  4. economic potential of the country in question

Which of the statements given above are correct?

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

## Price of currency

- The **price of any currency in international market is determined** by the forces of demand and supply. Demand for a **currency** increases if the demand for the goods and services provided by that country increases.
- International currency exchange rates display how much one unit of a currency can be exchanged for another currency.
- A **floating exchange rate** is a **regime** where the **currency price** of a nation is set by the forex market based on supply and demand relative to other currencies. This is in contrast to a **fixed exchange rate**, in which the government entirely or predominantly determines the **rate**

## Floating Exchange Rate

- **Floating exchange** rates have their benefits. For example, **floating exchange** rates **better** reflect the true value of a currency based on supply and demand.
- **Floating exchange** rates are volatile and prone to sharp fluctuations. The value of a **currency** against another can be severely diminished in a single trading day. **Negative exchange rate** movements for a country's **currency** can create serious problems.
- **China** does not have a **floating exchange** rate that is determined by market forces, as is the case with most advanced economies. Instead it pegs its **currency**, the yuan (or renminbi), to the U.S. dollar.

## Dirty floating Rate

- A **dirty float** is a **floating** exchange rate where a country's central bank occasionally intervenes to change the direction or the pace of change of a country's currency value.
- **Managed floating** rate is called **dirty floating** exchange rates. Due to government interference in it and those prices which were to be settled by the demand and supply rule have been intervened by the central bank. Thus it is **known as dirty floating** rate.



80/A2012

- The basic aim of Lead Bank Scheme is that
  - A) big banks should try to open offices in each district
  - B) there should be stiff competition among the various nationalized banks
  - C) individual banks should adopt particular districts for intensive development
  - D) all the banks should make intensive efforts to mobilize deposits

## Lead Bank

- The Lead Bank Scheme was introduced in 1969.
- The **lead bank** acts as a leader for coordinating the efforts of all credit institutions in the allotted districts to increase the flow of credit to agriculture, small-scale industries and other economic activities included in the priority sector in the rural and semi-urban areas, with the district being the basic unit.
- The districts are allotted to Banks
- The Reserve Bank of India (RBI) has appointed Jammu & Kashmir Bank as the **lead bank** for the newly formed union territory of Jammu and Kashmir. Besides, the State Bank of India (SBI) will be the **lead convenor bank** for union territory of Ladakh.

81/A2012

- Consider the following:
  1. Assessment of land revenue on the basis of nature of the soil and the quality of crops
  2. Use of mobile cannons in warfare
  3. Cultivation of tobacco and red chilies

Which of the above was/were introduced into India by the English?

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

## Commercialization of Agriculture by the British

- The policy of commercialization of agriculture by the British encouraged market oriented production of cash crops such as opium, tea, coffee, sugar, jute and indigo. Indian peasants were forced to grow these cash crops that spoiled the fertility of the land and no other crop could be grown on it.

82/A2012

- With reference to the guilds (Shreni) of ancient India that played a very important role in the country's economy, which of the following statements is/are correct?
  1. Every guild was registered with the central authority of the State and the king was the chief administrative authority on them
  2. The wages, rules of work, standards and prices were fixed by the guild
  3. The guild had judicial powers over its own membersSelect the correct answer using the codes given below:

A) 1 and 2 only

B) 3 only

C) 2 and 3 only

D) 1,2 and 3

## Guild in Ancient India

- A **guild** /gɪld/ is an association of artisans or merchants who oversee the practice of their craft/trade in a particular area. ... Typically the key "privilege" was that only **guildmembers** were allowed to sell their goods or practice their skill within the city.
- **Shreni**. Shreni, in the context of Ancient **India**, was an association of traders, merchants, and artisans. Generally, a separate shreni existed for a particular group of persons engaged in the same vocation or activity. Shrenis have sometimes been compared with the **guilds**.
- **Guild restrictions** refers to certain restrictions imposed on the the association in terms of trade or manufacturing.

83/A2012

- The distribution of powers between the centre and the States in the Indian Constitution is based on the scheme provided in them
  - A) Morley-Minto Reforms, 1909
  - B) Montagu-Chelmsford Act, 1919
  - C) Government of India Act, 1935
  - D) Indian Independence Act, 1947

## Dyarchy

- Dyarchy was introduced as a constitutional reform by **Edwin Samuel Montagu**(secretary of state for India, 1917-22) and **Lord Chelmsford** (viceroy of India, 1916-21). The principle of dyarchy was a division of the executive branch of each provincial government into authoritarian and popularly responsible sections.
- Salient Features of the **Government of India Act 1935** were as follows: Abolition of provincial dyarchy and introduction of dyarchy at centre. Abolition of **Indian Council** and introduction of an advisory body in its place. Provision for an **All India Federation** with **British India** territories and princely states.



84/A2012

- Despite having large reserves of coal, why does India import millions of tonnes of coal?

1. It is the policy of India to save its own coal reserves for future, and import it from other countries for the present use.

2. Most of the power plants in India are coal based and they are not able to get sufficient supplies of coal from within the country

3. Steel companies need large quantity of coking coal which has to be imported

Which of the statements given above is/are correct?

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

## India Importing Coal

- **India** has one of the largest reserves of coal but annual production from monopoly miner **Coal India** has not been **enough** to feed the needs of an industry as diverse as power plants, steel mills, cement and fertiliser units.
- Australia is the world's **largest exporter of coal**.
- India imports 15-20 million tonnes of coal every month worth about \$23 billion
- India import coal from Indonesia, Russia, Australia, South Africa, New Zealand, USA, UAE etc.

85/A2012

- A person stood alone in a desert on a dark night and wanted to reach his village which was situated 5 km east of the point where he was standing. He had no instruments to find the direction but he located the Pole Star. The most convenient way now to reach his village is to walk in the
  - A) direction facing the pole star
  - B) direction opposite to the polestar
  - C) direction keeping the polestar to his left
  - D) direction keeping the polestar to his right

## Pole Star

- Pole Star is holding nearly still in our sky because it is located nearly at the north celestial pole
- It is a bright star that can be seen in the sky in northern parts of the world when one looks directly toward the north.
- The pole star or Polaris is directly above the north pole of the earth and stays there all of the time. All other stars appear to move slowly from east to west as the earth rotates, but the pole star stays stopped at due north
- The distance to the pole star is 432 light years.
- The star is about 4,000 times as bright as the sun.

86/A2012

- Recently there has been a concern over the short supply of group of elements called 'rare earth metals' why?
  1. China, which is the largest producer of these elements, has imposed some restrictions on their export.
  2. Other than China, Australia, Canada and Chile, these elements are not found in any country
  3. Rare earth metals are essential for the manufacture of various kinds of electronic items and there is a growing demand for these elements

Which of the statements given above is/are correct?

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

## Rare Earth Elements

- They are the group of 17 elements
- Ex. Cerium, dysprosium, holmium, samarium
- Only one of them is radio active : Promethium
- rare-earth elements are typically dispersed and not often found concentrated in rare-earth minerals. Thus economically exploitable ore deposits are less common
- Cerium is the 25<sup>th</sup> most abundant element in Earth's crust
- China produced 81% of the world's rare-earth supply,
- There is a increase in demand for rear earth elements as they are used for new technology : smart phones, digital cameras, computer parts, semi-conducters, renewable energy, military equipment etc

87/A2012

- Consider the following protected areas:

1. Bandipur
2. Bhitarkanika
3. Manas
4. Sunderbans

Which of the above are declared Tiger Reserves?

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

## Tiger Reserves

- There are 50 tiger reserves in India which are governed by Project Tiger which is administrated by the National Tiger Conservation Authority (NTCA).
- India is home to 80 percent of tigers in the world. In 2006, there were 1,411 tigers which increased to 1,706 in 2010, 2,226 in 2014 and 2967 in 2018.
- **Nagarjunsagar-Srisaïlam Tiger Reserve** is the largest tiger reserve in India . The reserve spreads over five districts, Kurnool , Prakasam, Guntur, Nalgonda and Mahbubnagar. The total area of the tiger reserve is 3,728 km<sup>2</sup>
- **Kamlang Tiger Reserve**, Arunachal Pradesh is India's 50th Tiger Reserve.
- **Bhitarkanika** is famous for its wide and dense mangrove forest and crocodile reserve.



88/A2012

- Consider the following statements:
  1. The duration of the monsoon decreases from southern India to northern India
  2. The amount of annual rainfall in the northern plains of India decreases from east to west

Which of the statements given above is/are correct?

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

89/A2012

- Which one of the following is the characteristic climate of the Tropical Savannah Region?
  - A) Rainfall throughout the year
  - B) Rainfall in winter only
  - C) An extremely short dry season
  - D) A definite dry and wet season

## Tropical Savanna

- The **tropical savanna** climate has alternating dry and wet seasons, hence its name. It shares some similar **characteristics** with the **tropical monsoon** climate, but it receives less annual rainfall as compared to the **tropical monsoon** climate

90/A2012

- In which one among the following categories of protected areas in India are local people NOT allowed to collect and use the biomass?
  - A) Biosphere Reserves
  - B) National Parks
  - C) Wetlands declared under Ramsar Convention
  - D) Wildlife Sanctuaries

## National Parks

- There are 104 existing **national parks** in **India** covering an area of 40501.13 km<sup>2</sup>, which is 1.23% of the geographical area of the country
- The biggest national park in India is the **Hemis National Park**, located in Jammu and Kashmir states. It stretches over nearly 1,700 square miles north of the Himalayas and is covered in dense pine forests, alpine shrubs, and meadow lands.
- here are no human **activities allowed** though tourism in certain areas inside the **park is allowed**. Removal of forest produce and livestock grazing are strictly prohibited.

## National Parks

- National Park and Wildlife Sanctuaries are declared under Wildlife Protection Act, 1972
- Biosphere reserves are declared under UNESCO Man and Biosphere Reserve Programme, 1971

91/A2012

- Consider the following kinds of organisms:

1. Bat
2. Bee
3. Bird

Which of the above is are pollinating agent/agents?

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

92/A2012

- Which one of the following groups of animals belongs to the category of endangered species?
  - A) Great Indian Bustard, Musk Deer Red Panda and Asiatic Wild Ass.
  - B) Kashmir stag, Cheetal, Blue Bull and Great Indian Bustard
  - C) Snow leopard, Swamp Deer, Rhesus Monkey and Saras (Crane)
  - D) Lion -tailed Macaque, Blue Bull, Hanuman Langur and Cheetal



93/A2012

- Consider the following statements:

If there were no phenomenon of capillarity

1. It would be difficult to use a kerosene lamp
2. one would not be able to use a straw to consume a soft drink
3. The blotting paper would fail to function
4. the big trees that we see around would not have grown on the Earth

Which of the statements given above are correct?

- A) 1,2 and 3 only  
C) 2 and 4 only

- B) 1,3 and 4 only  
D) 1,2,3 and 4

## Capillarity

- **Capillarity**, rise or depression of a liquid in a small passage such as a tube of small cross-sectional area, like the spaces between the fibres of a towel or the openings in a porous material.
- Capillarity is not limited to the vertical direction. Water is drawn into the fibres of a towel, no matter how the towel is oriented.
- Capillarity is the result of surface, or interfacial, forces. The rise of water in a thin tube inserted in water is caused by forces of attraction between the molecules of water and the glass walls and among the molecules of water themselves.

94/A2012

- The Millennium Ecosystem Assessment describes the following major categories of ecosystem services- provisioning, supporting, regulating, preserving and cultural, which one of the following is supporting service?
  - A) Production of food and water
  - B) Control of climate and disease
  - C) Nutrient cycling and crop pollination
  - D) Maintenance of diversity

## Millennium Ecosystem Assessment

- The Millennium Ecosystem Assessment (MA) was called for by the United Nations Secretary-General Kofi Annan in 2000. Initiated in 2001, the objective of the MA was to assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.
- The overall **Millennium Ecosystem Assessment** has concluded that two thirds of the world's ecosystems ranging from wetlands and coastal areas to forests and soils are either degraded or being managed unsustainably. The new spin-off report argues that this has important ramifications for business and industry.

## Millennium Ecosystem Assessment

- Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fiber and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.
- The changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development, but these gains have been achieved at growing costs in the form of the degradation of many ecosystem services, increased risks of nonlinear changes, and the exacerbation of poverty for some groups of people. These problems, unless addressed, will substantially diminish the benefits that future generations obtain from ecosystems.

95/A2012

- What is the difference between the antelopes Oryx and Chiru?  
A) Oryx is adapted to live in hot and arid areas whereas Chiru is adapted to live in steppes and semi-desert areas of cold high mountains  
B) Oryx is poached for its antlers where Chiru is poached for its musk  
C) Oryx exists in western India only whereas Chiru exists in north-east India only  
D) None of the statements A, B, and C given above is correct

## Oryx

- **Oryx** is a genus consisting of four large antelope species called oryxes. Three of them are native to arid parts of Africa, and the fourth to the Arabian Peninsula. Their fur is pale with contrasting dark markings in the face and on the legs, and their long horns are almost straight.
- Oryx is the national animal of Qatar
- It is also the logo of **Qatar Airways** and was the official mascot of the 2006 Asian Games held in **Qatar**.
- The Arabian **Oryx**, thrives in the harsh desert environment, where temperatures can reach up to 50°C in the summers.

## Chiru

- Chiru, (*Panthalops hodgsoni*), also called **Tibetan antelope**, a small, gregarious, graceful **antelope**-like mammal of the family Bovidae (order Artiodactyla) that lives on the high alpine steppes of the Tibetan Plateau.
- Males carry thin, long horns that curve slightly forward; females are hornless.
- The Tibetan antelope (*Pantholops hodgsonii*), locally called **chiru**, is mainly confined to the Tibetan plateau in China. A small population migrates into Chang Thang in eastern Ladakh in the state of Jammu and Kashmir in **India**.



96/A2012

- Which of the following can be threats to the biodiversity of a geographical area?
  1. Global warming
  2. Fragmentation of habitat
  3. Invasion of alien species
  4. Promotion of vegetarianism

Select the correct answer using the codes given below:

- A) 1,2 and 3 only
- C) 1 and 4 only

- B) 2 and 3 only
- D) 1,2,3 and 4

97/A2012

- Consider the following:
  1. Black-necked crane
  2. Cheetah
  3. Flying squirrel
  4. Snow leopard

Which of the above are naturally found in India?

- A) 1,2 and 3 only
- C) 2 and 4 only

- B) 1,3 and 4 only
- D) 1,2,3 and 4

## Cheetah

- The **cheetah** (*Acinonyx jubatus*) is a large cat native to Africa and central Iran. It is the fastest land animal, capable of running at 80 to 128 km/h (50 to 80 mph), and as such has several adaptations for speed, including a light build, long thin legs and a long tail.

98/A2012

- Consider the following agricultural practices:
  1. Contour bunding
  2. Relay cropping
  3. Zero tillage

In the context of global climate change, which of the above helps/help in carbon sequestration/storage in the soil?

- A) 1 and 2 only
- C) 1,2 and 3

- B) 3 only
- D) None of them

## Carbon sequestration

- Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide. It is one method of reducing the amount of carbon dioxide in the atmosphere with the goal of reducing global climate change.
- Carbon sequestration describes long-term storage of carbon dioxide or other forms of carbon to either mitigate or defer global warming and avoid dangerous climate change.
- It has been proposed as a way to slow the atmospheric and marine accumulation of greenhouse gases, which are released by burning fossil fuels.

99/A2012

- What would happen if phytoplankton of an ocean is completely destroyed for some reason?
  1. The ocean as a carbon sink would be adversely affected
  2. The food chains in the ocean would be adversely affected
  3. The density of ocean water would drastically decrease.

Select the correct answer using the codes given below

- A) 1 and 2 only
- C) 3 only

- B) 2 only
- D) 1,2 and 3

## Phytoplankton

- **Phytoplankton** are some of Earth's most critical organisms
- They generate about half the atmosphere's oxygen, as much per year as all land plants.
- **Phytoplankton** is the base of several aquatic food webs. In a balanced ecosystem, they provide food for a wide range of sea creatures including whales, shrimp, snails, and jellyfish.
- No **plankton**=no fish= no food for millions of people. **Without** ocean life millions (if not billions) of people will start to starve

100/A2012

- Vultures which used to be very common in Indian countryside some years ago are rarely seen nowadays. This is attributed to
  - A) the destruction of their nesting sites by new invasive species
  - B) a drug used by cattle owners for treating their diseased cattle
  - C) scarcity of food available to them
  - D) a widespread, persistent and fatal disease among them



## Vultures

- **Vultures** are on the verge of extinction in India because a banned drug is being used illegally to treat suffering cattle.
- The endangered birds eat the remains of the drugged animals and suffer kidney failure and visceral gout, which is usually fatal.
- Diclofenac drug . It was banned in 2006. Diclofenac is a nonsteroidal anti-inflammatory drug (NSAID)
- India's three vulture species saw an unprecedented decline of 97 to 99.9 percent between 1992 and 2007 owing to ingesting diclofenac through cattle carcasses.
- The near extinction of this efficient scavenger is linked to spread of zoonotic diseases and increased incidence of rabies.

## Answers

1	B	11	D	21	D	31	B	41	C
2	A	12	A	22	B	32	A	42	C
3	C	13	A	23	C	33	A	43	A
4	A	14	C	24	C	34	D	44	D
5	B	15	D	25	D	35	A	45	B
6	B	16	B	26	A	36	C	46	A
7	D	17	C	27	C	37	C	47	D
8	C	18	B	28	C	38	C	48	D
9	B	19	A	29	B	39	C	49	C
10	C	20	A	30	B	40	C	50	D

## Answers

51	C	61	D	71	A	81	D	91	D
52	A	62	D	72	B	82	C	92	A
53	A	63	B	73	C	83	C	93	B
54	C	64	C	74	B	84	B	94	C
55	D	65	D	75	B	85	C	95	A
56	C	66	A	76	B	86	C	96	D
57	A	67	B	77	C	87	B	97	B
58	B	68	A	78	D	88	C	98	C
59	C	69	D	79	B	89	D	99	A
60	A	70	B	80	C	90	B	100	B

Thank You