

## UPSC WITH NIKHIL



### UPSC 2022 QUESTION PAPER SET - B

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*Again, in 2022 Prelims, we have outperformed various top institutes in country. We make no false and forged claims. Various leading institutes are claiming their questions in UPSC Prelims 2022 not just from their test series but also from their other material including open test, revision test, Study materials, Magazines etc.). But we are claiming all 61 questions from our Test Series only.*

*As from last 3 years, this year too, we claim one of the best all over India performance- **61 questions** with proof from our 'UPSC with Nikhil' Prelims test series 2022. We have asked many questions over and over in multiple tests. We have also explained some of the answers using cards, maps, charts and diagrams.*

**Following is the complete list of all the 61 questions.**

*For any help, please contact us at-*

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*We hope to serve you better in the years to come. Thank You!*

*Team UPSC with Nikhil!*

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{1} UPSC 2022/ Set-B / Q- 02  
> UPSC with Nikhil Test-46 Q-99

2. Consider the following statements :

1. "The Climate Group" is an international non-profit organization that drives climate action by building large networks and runs them.
2. The International Energy Agency in partnership with the Climate Group launched a global initiative "EP100".
3. EP100 brings together leading companies committed to driving innovation in energy efficiency and increasing competitiveness while delivering on emission reduction goals.
4. Some Indian companies are members of EP100.
5. The International Energy Agency is the Secretariat to the "Under2 Coalition".

Which of the statements given above are correct ?

- (a) 1, 2, 4 and 5 ✗  
(b) 1, 3 and 4 only ✓  
(c) 2, 3 and 5 only ✗  
(d) 1, 2, 3, 4 and 5 ✓

VG YH-U-FGT

(3)

Q 99. (C)

Explanation:

Option (c) is correct

Supplementary notes:

Climate Group

It is an international non-profit founded in 2003, with offices in London, New York and New Delhi, aimed at making world of net zero carbon emissions by 2050.

Climate Group also acts as secretariat for Under2 coalition.

Programmes of The Climate Group:

RE100 is the global renewable energy initiative bringing together hundreds of large and influential businesses committed to 100% renewable electricity.

EP100 is a global initiative bringing together large, energy-smart companies doing more with less energy.

LED Scale-up is a global initiative calling on policymakers to switch to energy efficient light-emitting diode (LED) technology for all city street lighting by 2025 and define long-term strategies to encourage its uptake worldwide, including by utilities.

Test: 46 (FULL LENGTH TEST - I) (2022) | Test Code: A-22146 Contact us at - support@upscwithnikhil.com / +91-75586 44556

{2} UPSC 2022/ Set-B / Q- 04  
> UPSC with Nikhil Test-17 Q-55

4. In the context of WHO Air Quality Guidelines, consider the following statements :

- 1. The 24-hour mean of  $PM_{2.5}$  should not exceed 15  $\mu g/m^3$  and annual mean of  $PM_{2.5}$  should not exceed 5  $\mu g/m^3$ . ✓
- 2. In a year, the highest levels of ozone pollution occur during the periods of inclement weather.
- 3.  $PM_{10}$  can penetrate the lung barrier and enter the bloodstream. ✗
- 4. Excessive ozone in the air can trigger asthma. ✓

Which of the statements given above are correct ?

- (a) 1, 3 and 4 ✗
- (b) 1 and 4 only
- (c) 2, 3 and 4 ✗
- (d) 1 and 2 only

- B )

Q 55. Consider the following statements with respect to WHO Air quality guidelines

- 1. It recommends levels and interim targets for common air pollutants like PM, O3, NO2, and SO2.
- 2. The guidelines will be reviewed and updated annually by the World Health Organization (WHO).
- 3. These guidelines are neither standards nor legally binding.

Which of the statement(s) given above is/are correct?

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

Q 55. (B)

**WHO's Air quality guidelines (AQG)**

- Since 1987, the world body has periodically issued health-based air quality guidelines to assist governments and civil society to reduce human exposure to air pollution and its adverse effects.
- The WHO has updated the global air pollution standards recently, a first since 2005. (not updated annually)
- The World Health Organization's Air quality guidelines (AQG) serve as a global target for national, regional and city governments to work towards improving their citizen's health by reducing air pollution.
- The WHO guidelines also propose interim targets that can be met en route to achieving the final target.
- The WHO Air quality guidelines recommend levels and interim targets for common air pollutants: PM, O3, NO2, and SO2.
- Although the guidelines are neither standards nor legally binding criteria, they are designed to offer guidance in reducing the health



{3} UPSC 2022/ Set-B / Q- 06

> UPSC with Nikhil **Test-10 Q-91 | Test-43 Q-85**

With reference to **polyethylene terephthalate**, the use of which is so widespread in our daily lives, consider the following statements :

1. Its fibres **can be** blended with wool and cotton fibres to reinforce their properties.
- ~~2.~~ Containers made of it **can be** used to store **any** alcoholic beverage.
3. Bottles made of it **can be** recycled into other products.
4. Articles made of it **can be** easily disposed of by incineration **without** **causing** greenhouse gas emissions.

Which of the statements given above are correct ?

- (a) 1 and 3
- (b) 2 and 4
- (c) 1 and 4
- (d) 2 and 3

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Q 91. Match the following:

Types of Plastics – Applications

1. Polypropylene – a. Bottles, Carry bags, Recycling bins
2. Polyethylene Terephthalate – b. CD covers, cassette boxes
3. Polystyrene – c. Bottle caps, Auto parts and Industrial fibres
4. Poly-Vinyl Chloride – d. Pipes, Hoses, Wire cable insulations

Select the correct answer using the codes given below:

- (A) 1-d; 2-b; 3-c; 4-a
- (B) 1-a; 2-b; 3-c; 4-d
- (C) 1-c; 2-a; 3-b; 4-d
- (D) 1-c; 2-d; 3-b; 4-a

Control Board (CPCB) has defined the numerous applications of these categories under Guidelines for Disposal of Plastic Waste, 2017.<sup>4</sup>



### What are plastic bags made of?

Plastic bags are made from one of the three basic types of polymers -polyethylene- High Density polyethylene (HDPE), Low Density Polyethylene (LDPE), or Linear Low-Density Polyethylene (LLDPE). Grocery bags are generally of HDPE, and bags from the dry cleaner are LDPE. The major difference between these materials is the degree of branching of the polymer chain. HDPE and LLDPE are composed of linear, unbranched chains, while LDPE chains are branched.



1. Which of the following is **not** a bird ?

- ~~(a)~~ Golden Mahseer → fish  
(b) Indian Nightjar  
(c) Spoonbill  
(d) White Ibis

VGYH-U-FGT

(5)

Mahseer

- Recently, a team of researchers from the Department of Zoology, Andhra University have sighted and fished out a rare fish 'Mahseer' from the upper part of Sileru river.
- It is a rare fish having its scientific name as 'Tor'.
- It is normally found in the Himalayan region in the rivers running through the cooler climes of Himachal Pradesh, Uttarakhand, Nepal and Bhutan.

Test: 37 (Current Affairs - XVII) (2022) | Test Code: A-22137 Contact us at - support@upscwithnikhil.com / +91-75586 44556

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UPSC WITH NIKHIL - NAGPUR

- Golden Mahseer is a species of a rare Mahseer fish which is found in the Himalayan region, where the temperature around year does not exceed 20° Celsius.
- In the Godavari River there are about 135 recorded fish species and the Grey Mahseer is one of them.
- Conservation Status: IUCN: Endangered

{5} UPSC 2022/ Set-B / Q- 08

> UPSC with Nikhil **Test-07 Q-39 | Test-33 Q-55**

8. Which of the following are nitrogen-fixing plants ?

1. Alfalfa
2. Amaranth
3. Chickpea
4. Clover
5. Purslane (Kulfa)
6. Spinach

Select the correct answer using the code given below :

- (a) 1, 3 and 4 only
- (b) 1, 3, 5 and 6 only
- (c) 2, 4, 5 and 6 only
- (d) 1, 2, 4, 5 and 6

Q 55. (D)

Explanation:

• Option (d) is correct

Supplementary notes:

Nitrogen fixation:

- Plants need nitrogen to make themselves. Without nitrogen, a plant cannot make the proteins, amino acids and even its very DNA.
- This is why when there is a nitrogen deficiency in the soil, plants are stunted. They simply cannot make their own cells. If there is nitrogen all around us, as it makes up 78 percent of the air we breathe.
- In order for plants to use the nitrogen in the air, it must be converted in some way to nitrogen in the soil. This can happen through nitrogen fixation, or nitrogen can be "recycled" by composting plants and manure.
- There are two routes to go when fixing a nitrogen deficiency in the soil, either organic or non-organic.

Organic:

- To correct a nitrogen deficiency using organic methods requires time, but will result in a more even distribution of the added nitrogen over time.
- Some organic methods of adding nitrogen to the soil include:
  - Adding composted manure to the soil
  - Planting a green manure crop, such as borage
  - Planting nitrogen fixing plants like peas or beans
  - Adding coffee grounds to the soil

Non-organic:

- Nitrogen as a plant fertilizer is common when purchasing chemical fertilizers.
- When looking to specifically add nitrogen to your garden, choose a fertilizer that has a high first number in the NPK ratio. The NPK ratio will look something like 10-10-10 and the first number tells you the amount of nitrogen.

Q 39. Which of the following is/are involved in the Nitrogen fixation on Earth?

1. Bacteria
2. Blue-green algae
3. Thunder and lighting

Select the correct answer using the code given below.

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



{6} UPSC 2022/ Set-B / Q- 09  
> UPSC with Nikhil **Test-07 Q-100**

9. "Biorock/technology" is talked about in which one of the following situations?

- (a) Restoration of damaged coral reefs ~~X~~
- (b) Development of building materials using plant residues ~~X~~
- (c) Identification of areas for exploration/extraction of shale gas ~~X~~
- (d) Providing salt licks for wild animals in forests/protected areas ~~X~~

Q 100. "Biorock technology" has been used for the first time in the country by Gujarat state along with Zoological Survey of India. It is associated with

- (A) A Carbon sequestration technique to counter the effects of Climate Change
- (B) A process to restore the coral reefs using mineral accretion technology
- (C) A conservation technique to restore the wildlife habitat and national parks
- (D) A climate-friendly technology initiative to clean up the beaches from the non-coastal debris

Q 100. (B)

EXPLANATION:

The Zoological Survey of India (ZSI), with help from Gujarat's forest department, is attempting for the first time a process to restore coral reefs using Biorock or Mineral Accretion Technology. So, Option (b) is correct.

ADDITIONAL INFORMATION:

- **Biorock** is the name given to the substance formed by electro accumulation of minerals dissolved in seawater on steel structures that are lowered onto the sea bed and are connected to a power source, in this case solar panels that float on the surface.

Working Principle

- The technology works by passing a small amount of electrical current through electrodes in the water.
- When a positively charged anode and negatively charged cathode are placed on the sea floor, with an electric current flowing between them, calcium ions combine with carbonate ions and adhere to the structure (cathode).
- This results in calcium carbonate formation.
- Coral larvae adhere to the CaCO<sub>3</sub> and grow quickly.
- Fragments of broken corals are tied to the biorock structure, where they are able to grow at least four to six times faster than their actual growth as they need not spend their energy in building their own calcium carbonate skeletons.



{7} UPSC 2022/ Set-B / Q- 10  
> UPSC with Nikhil **Test-37 Q-52**

10. The "Miyawaki method" is well known for the :

- (a) Promotion of commercial farming in arid and semi-arid areas
  - (b) Development of gardens using genetically modified flora
  - ✓ (c) Creation of mini forests in urban areas
  - (d) Harvesting wind energy on coastal areas and on sea surfaces
- B)

**Q 52.** Consider the following statements regarding **Miyawaki Forestation Method**:

1. With this method of plantation, an urban forest can grow within a shorter span than that of the conventional forest.

2. In this method, the native species of plants are planted close to each other for better growth.

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

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Q 52. (C)

**Explanation:**

**Both statements are correct**

**Supplementary notes:**

**The Miyawaki forestation method:**

It is a unique way to create an urban forest and is pioneered by Japanese botanist Akira Miyawaki.

**Miyawaki urban forests** are fascinating complex ecosystems, in balance with soil and climate conditions.

With this method of plantation, an urban forest can grow within a short span of 20- 30 years while a conventional forest takes around 200-300 years to grow naturally.

In the **Miyawaki technique**, various native species of plants are planted close to each other so that the greens receive sunlight only from the top and grow upwards than sideways.

As a result, the plantation becomes approximately 30 times denser, grows 10 times faster and becomes maintenance free after a span of 3 years.

A **Miyawaki forest** planted by Urban Forests grows each year by a minimum of 1 meter, without chemicals or synthetic fertilizers.

{8} UPSC 2022/ Set-B / Q- 11  
> UPSC with Nikhil **Test-50 Q-40**

11. Consider the following :

1. Aarogya Setu ✓

2. CoWIN

3. DigiLocker ✓

4. DIKSHA

Which of the above are built on top of open-source digital platforms ?

(a) 1 and 2 only

(b) 2, 3 and 4 only

(c) 1, 3 and 4 only

(d) 1, 2, 3 and 4

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Q 40. Which of the following may be considered as Digital Public Goods?

1. Digi locker

2. COWIN platform

3. Unified Payments Interface (UPI)

Select the correct answer using the code given below.

(A) 2 only

(B) 2 and 3 only

(C) 1 and 3 only

(D) 1, 2 and 3

Q 40. (D)

• To unlock a more equitable world, a global effort is needed to encourage and invest in the creation of digital public goods (DPG): open-source software, open data, open artificial intelligence models, open standards and open content. This is key to achieving the Sustainable Development Goals. Digital public goods should adhere to privacy and other applicable laws, standards and best practices, do no harm.

• The basic traits of DPG include

o DPG are goods with benefits that potentially extend to all countries, people, and generations.

o They are public in the traditional economic sense as opposed to private; and global as opposed to national.

o Similar to public goods, DPG are non-rivalrous and non-excludable.

• India's DPG Model:

o India Stack was synthesised to solve a fundamental issue impeding financial inclusion: a lack of a comprehensive identifier. Core part of the India Stack: Aadhaar Authentication, Aadhaar e-KYC, eSign, **Digital Locker, Unified Payment Interface (UPI) and Digital User Consent.**

o CoWin – a digital solution for COVID-19 vaccination management registration. It uses Digital Infrastructure for Vaccination Open Credentialing (DIVOC) to credentialize vaccines.

• Hence option (d) is the correct answer.



{9} UPSC 2022/ Set-B / Q- 12  
> UPSC with Nikhil Test-24 Q-07

12. With reference to **Web 3.0**, consider the following statements :

1. Web 3.0 technology enables people to control their own data. ✓
2. In Web 3.0 world, there can be blockchain based social networks. ✓
3. Web 3.0 is operated by users collectively rather than a corporation.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only ✓
- (d) 1, 2 and 3

VG YH-U-FGT

Q 7. (C)

The concept of Web3, also called **Web 3.0**, used to describe a potential next phase of the internet, created quite a buzz in 2021.

**Web 3.0**

• Gavin Wood, founder of Ethereum, a block chain technology company, used the term Web3 first in 2014.

**How Web3 addresses the problems of data monopoly?**

- **Web3** will deliver “decentralized and fair internet where users control their own data”.
- Currently if a seller has to make a business to the buyer, both the buyer and seller need to be registered on a “shop” or “platform” like Amazon or Ebay or any such e-commerce portal.
- What this “platform” currently does is that it authenticates that the buyer and seller are genuine parties for the transaction.
- Web3 tries to remove the role of the “platform”.
- For the buyer to be authenticated, the usual proofs aided by **block chain technology** will be used.
- The same goes for the seller.
- With block chain, the time and place of transaction are recorded permanently.
- Thus, Web3 enables peer to peer (seller to buyer) transaction by eliminating the role of the intermediary.
- The spirit of Web3 is Decentralized Autonomous Organization (DAO) which is that all the business rules and governing rules in any transaction are transparently available for anyone to see and software will be written conforming to these rules.
- Crypto-currency and block chain are technologies that follow the DAO principle.

Q 7. Consider the following statements regarding Web3:

1. Web3 enables peer to peer transaction by eliminating the role of the intermediary.
2. The spirit of Web3 is Decentralized Autonomous Organization (DAO), meaning there is no need for a central authority to authenticate or validate.

Which of the above statement(s) is/are correct?

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



{10} UPSC 2022/ Set-B / Q- 13  
> UPSC with Nikhil **Test-16 Q-73**

10. With reference to **Software as a Service (SaaS)**, consider the following statements :

- 1. SaaS buyers can customise the user interface and can change data fields.
- 2. SaaS users can access their data through their mobile devices.
- 3. Outlook, Hotmail and Yahoo! Mail are forms of SaaS.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only

*Do No  
Answer*

1, 2 and 3

Q 73. (C)

**Software as a Service (SaaS) Background**

- ❑ Earlier, companies would have to install software in their clients' localised hardware for them to use their applications.
- ❑ So, this required customers to pay for use of the software upfront, and also for the hardware on which the software would run.
- ❑ Companies also had to invest in manpower/IT teams at their end to ensure successful implementation of the software and its continuous maintenance.

**Software as a Service (SaaS)**

- ❑ It is a way of delivering software applications over the internet when a customer requires them.
- ❑ In this system, software itself is considered as a service industry.
- ❑ SaaS is one of three main categories of cloud computing, alongside infrastructure as a service (IaaS) and platform as a service (PaaS).
- ❑ SaaS applications are sometimes called Web-based software, on-demand software, or hosted software.
- ❑ **Advantages** - The biggest advantage is, it enables innovation.
- ❑ It has basically converted fixed costs of companies into variable costs.
- ❑ When capital is scarce, the SaaS model frees up capital for more high priority requirements

**Q 73.** Consider the following statements with respect to **Software as a Service (SaaS)**

- 1. It is a way of delivering applications in which software itself is considered as a service industry.
  - 2. It allows each user to access software via Internet, instead of having to install the software on the user's computer.
  - 3. It converted a company's fixed costs into variable costs and frees up capital for more high priority requirements.
- Which of the statement(s) given above is/are correct?

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

{11} UPSC 2022/ Set-B / Q- 15  
> UPSC with Nikhil **Test-37 Q-41**

Which one of the following is the context in which the term "qubit" is mentioned?

- (a) Cloud Services
- (b) Quantum Computing
- (c) Visible Light Communication Technologies
- (d) Wireless Communication Technologies

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**Q 41.** A quantum bit, or **qubit**, is the basic unit of information for a quantum computer. Consider the following statements regarding the Qubit:

1. A qubit can take on an infinite number of values.
2. Each qubit can represent both a '1' and a '0' at the same time.

Which of the above statements is/are correct?

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

**Q 41. (C)**

**Explanation:**

Both statements are correct

**Supplementary notes:**

**Qubit**

A quantum bit, or **qubit**, is the basic unit of information for a quantum computer, analogous to a bit in ordinary machines. Unlike a bit, **which can have the value 0 or 1, a qubit can take on an infinite number of values.**

A **quantum computer** is any device for computation that makes direct use of distinctively quantum mechanical phenomena, such as superposition and entanglement, to perform operations on data.

**Superposition means that each qubit can represent both a '1' and a '0' at the same time.**

Entanglement happens when two qubits are made to interact in a certain way, and they become inexplicably linked. Once entangled, they start sharing the same properties, no matter how distant they are from each other.



{12} UPSC 2022/ Set-B / Q- 17  
> UPSC with Nikhil **Test-23 Q-43**

Consider the following statements :

1. Biofilms can form on medical implants within human tissues.
2. Biofilms can form on food and food processing surfaces.
3. Biofilms can exhibit antibiotic resistance.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Q 43.** The term 'Biofilm' is associated with which of the following statements?

- (A) A vitamin found in foods like eggs, milk, and bananas.
- (B) A collective of one or more types of microorganisms that can grow on many different surfaces.
- (C) The process of increasing the micronutrient content of a food crop through selective breeding, genetic modification, or the use of enriched fertilizers.
- (D) Products that reduce the need for fertilizers and increase plant growth, resistance to water and abiotic stresses.

**Q 43. (B)**

Bacterial biofilms use a developmental patterning mechanism seen in plants and animals.

**Biofilm**

- Clusters of bacteria that live together in communities known as biofilms.
- These types of microorganisms can grow on many different surfaces.
- Microorganisms that form biofilms include bacteria, fungi and protists.
- One common example of a biofilm is dental plaque, a slimy buildup of bacteria that forms on the surfaces of teeth.
- Pond scum is another example and they are also found inhabiting sewer pipes, kitchen counters.
- Biofilms have been found growing on minerals and metals.
- They have been found underwater, underground and above the ground.
- They can grow on plant tissues and animal tissues, and on implanted medical devices such as catheters and pacemakers.
- Each of these distinct surfaces has a common defining feature: they are wet.
- Biofilms thrive upon moist or wet surfaces.



{13} UPSC 2022/ Set-B / Q- 19  
> UPSC with Nikhil Test-16 Q-43

19. In the context of vaccines manufactured to prevent COVID-19 pandemic, consider the following statements :

1. The Serum Institute of India produced COVID-19 vaccine named Covishield using mRNA platform.
2. Sputnik V vaccine is manufactured using vector based platform.
3. COVAXIN is an inactivated pathogen based vaccine.

Which of the statements given above are correct ?

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

- B )

Q 72. (D)

Explanation:

- All statements are correct

Supplementary notes:

- Covishield, also known as ChAdOx1 nCoV-19 (AZD1222), is based on a weakened version of a common cold virus or the adenoviruses found in chimpanzees.
- This viral vector contains the genetic material of the SARS-CoV-2 spike protein—protrusions present on the outer surface of the virus that help it bind with the human cell.
- As per scientific data, adenovirus-based vaccines are found to induce antigen-specific immune responses in humans
- Bharat Biotech's Covaxin is an inactivated vaccine that was developed using whole-virion inactivated vero cell-derived platform.
- They contain dead virus, incapable of infecting people, but capable of instructing the immune system to mount a defensive reaction.
- The Lancet published a study that said the efficacy of Covishield's two doses is 81.3 per cent when administered 12 weeks apart, in comparison to an efficacy of 55.1 per cent when administered less than six weeks apart.
- ZyCoV-D is India's first indigenously developed DNA vaccine candidate against COVID-19.
- The ZyCoV-D vaccine candidate is being developed by Zydus Cadila and approved by the Drugs Controller General of India (DCGI) to conduct Phase III clinical trial to the Department of Biotechnology.
- ZyCoV-D is being developed on a DNA platform using a non-replicating and nonintegrating plasmid carrying the novel coronavirus gene, making it very safe.
- The DNA platform is known to have better vaccine stability and lower cold chain requirements, which would make it easier to store and transport to remote parts of the country.
- DNA vaccines are composed of bacterial plasmids with a gene encoding for the protein of interest and transcription promoter and terminator.
- The plasmid gains entry in multiple cells such as myocytes, keratinocytes, and antigen presenting cells (APCs). It enters the nucleus as an episome without getting integrated into the host cell DNA.

Q 72. Consider the following statements about the COVID-19 vaccines:

1. Covishield is based on weakened adenovirus whereas Covaxin is based on inactivated virus.
2. The gap is increased, in doses of Covishield, because it boosts the efficacy
3. ZyCoV-D is India's first indigenously developed DNA vaccine.

Which of the statement(s) given above is/ are correct?

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

{14} UPSC 2022/ Set-B / Q- 20  
> UPSC with Nikhil Test-15 Q-90

If a major solar storm (solar-flare) reaches the Earth, which of the following are the possible effects on the Earth ?

1. GPS and navigation systems could fail.
2. Tsunamis could occur at equatorial regions.
3. Power grids could be damaged.
4. Intense auroras could occur over much of the Earth.
5. Forest fires could take place over much of the planet.
6. Orbits of the satellites could be disturbed.
7. Shortwave radio communication of the aircraft flying over polar regions could be interrupted.

Select the correct answer using the code given below :

- (a) 1, 2, 4 and 5 only
- (b) 2, 3, 5, 6 and 7 only
- (c) 1, 3, 4, 6 and 7 only
- (d) 1, 2, 3, 4, 5, 6 and 7

Q 90. (C)

### Solar Storm

- ☑ It is a directional ejection of a large mass of highly magnetised particles from the sun.
- ☑ When the earth is in the direct path of such solar storms, these magnetised and charged solar particles will interact with the earth's magnetic field and induce strong electric currents on the earth's surface.
- ☑ Hence, power grids, oil and gas pipelines, and networking cables are the most vulnerable.
- ☑ Powerful solar superstorms can destroy long-distance undersea cables leading to massive Internet disruption lasting for several months.
- ☑ Undersea cables have a higher risk of failure compared to land cables due to their large lengths as current is proportional to the area of the loop formed by the two grounds and the cable.
- ☑ Communication satellites could also be among the severely affected systems due to direct exposure to highly charged particles in the storms.
- ☑ The scale of impact is different for different regions.
- ☑ Chinese cities are more prone to lose connectivity than Indian cities because the former connects to longer cables.

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Q 90. Consider the following statements with respect to Solar Storms

1. It is a directional ejection of a large mass of highly magnetised particles from the sun
2. Undersea cables have a higher risk of failure from solar storms compared to land cables.

Which of the statement(s) given below is/are correct?

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



{15} UPSC 2022/ Set-B / Q- 21

> UPSC with Nikhil Test-17 Q-39 | Test-41 Q-45

21. Consider the following statements :

1. Pursuant to the report of H.N. Sanyal Committee, the Contempt of Courts Act, 1971 was passed. ✓
2. The Constitution of India empowers the Supreme Court and the High Courts to punish for contempt of themselves. ✗
3. The Constitution of India defines Civil Contempt and Criminal Contempt.
4. In India, the Parliament is vested with the powers to make laws on Contempt of Court. ✗

Which of the statements given above is/are correct ?

- (a) 1 and 2 only ✓
- (b) 1, 2 and 4 ✗
- (c) 3 and 4 only ✗
- (d) 3 only ✗

#### A Court of Record

As a Court of Record, the Supreme Court has two powers:

(a) The judgements, proceedings and acts of the Supreme Court are recorded for perpetual memory and testimony. These records are admitted to be of evidentiary value and cannot be questioned when produced before any court. They are recognised as legal precedents and legal references.

(b) It has power to punish for contempt of court, either with simple imprisonment for a term up to six months or with fine or with both.

In 1991, the Supreme Court has ruled that it has power to punish for contempt not only of itself but also of high courts, subordinate courts and tribunals functioning in the entire country.

Contempt of court may be civil or criminal. Civil contempt means willful disobedience to any judgement, order, writ or other process of a court or wilful breach of an undertaking given to a court. Criminal contempt means the publication of any matter or doing an act which—(i) scandalises or lowers the authority of a court; or (ii) prejudices or interferes with the due course of a judicial proceeding; or (iii) interferes or obstructs the administration of justice in any other manner.

However, innocent publication and distribution of some matter, fair and accurate report of judicial proceedings, fair and reasonable criticism of judicial acts and comment on the administrative side of the judiciary do not amount to contempt of court.

Q 39. Which of the following does not qualify as criminal contempt of the Supreme Court?

- (A) Wilful disobedience to any judgements of the Court.
- (B) Scandalising or lowering the authority of the Court.
- (C) Interference with the due course of a judicial proceeding.
- (D) Intimidating a witness



{16} UPSC 2022/ Set-B / Q- 23  
> UPSC with Nikhil **Test-31 Q-67**

Consider the following statements :

1. A bill amending the Constitution requires a prior recommendation of the President of India.
2. When a Constitution Amendment Bill is presented to the President of India, it is obligatory for the President of India to give his/her assent.
3. A Constitution Amendment Bill must be passed by both the Lok Sabha and the Rajya Sabha by a special majority and there is no provision for joint sitting.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Q 67.** Consider the following statements regarding 'Article 368':

1. A Constitutional Amendment Bill can be passed at a joint session of parliament.
  2. It is obligatory for the President to give assent to a constitutional Amendment Bill passed under Article 368.
  3. Ratification of more than half of the state is required to amend the seventh schedule of Indian Constitution.
  4. A proposal to amend the constitution can only be introduced in the house of the people.
- Identify the correct answer:

- a) 1 and 2 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) All of these

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- The bill can be introduced either by a minister or by a private member and does not require prior permission of the president.
- The bill must be passed in each House by a special majority, that is, a majority (that is, more than 50 per cent) of the total membership of the House and a majority of two-thirds of the members of the House present and voting.
- Each House must pass the bill separately. In case of a disagreement between the two Houses, there is no provision for holding a joint sitting of the two Houses for the purpose of deliberation and passage of the bill.
- If the bill seeks to amend the federal provisions of the Constitution, it must also be ratified by the legislatures of half of the states by a simple majority, that is, a majority of the members of the House present and voting.
- After duly passed by both the Houses of Parliament and ratified by the state legislatures, where necessary, the bill is presented to the president for assent.

When a constitution amendment bill is presented before the President, the President shall give his assent to the bill. He can neither withhold his assent nor return the bill for the reconsideration of the Parliament.

Once the Presidential assent is obtained, the bill becomes an Act (i.e., a constitutional amendment act) and the Constitution stands amended in accordance with the terms of the Act.

{17} UPSC 2022/ Set-B / Q- 24  
> UPSC with Nikhil **Test-03 Q-80**

Consider the following statements :

1. The Constitution of India classifies the ministers into four ranks viz. Cabinet Minister, Minister of State with Independent Charge, Minister of State and Deputy Minister.
2. The total number of ministers in the Union Government, including the Prime Minister, shall not exceed 15 percent of the total number of members in the Lok Sabha.

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

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Q 80. (B)

#### EXPLANATION

The total number of ministers, including the Prime Minister, in the Council of Ministers shall not exceed 15% of the total strength of the Lok Sabha. This provision was added by the 91st Amendment Act of 2003. It is not with respect to total strength of both the house of Parliament, only the Lok Sabha. **So, Statement 1 is not correct.**

The nature of advice tendered by ministers to the President cannot be enquired by any court. **So, Statement 2 is correct. So, Option B is correct.**

#### ADDITIONAL INFORMATION:

Article 74 provides for a council of ministers with the Prime Minister at the head to aid and advise the President in the exercise of his functions. The 42nd and 44th Constitutional Amendment Acts have made the advice binding on the President. Further, the nature of advice tendered by ministers to the President cannot be enquired by any court.

**Q 80.** Consider the following statements with reference to Central Council of Ministers:

1. The total number of ministers, including the Prime Minister, shall not exceed 15% of the total strength of both the house of parliament.

2. The advice tendered by Ministers to the President shall not be inquired into any court. 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



{18} UPSC 2022/ Set-B / Q- 25

> UPSC with Nikhil **Test-41 Q-67 | Test-01 Q-83**

25. Which of the following is/are the exclusive power(s) of Lok Sabha?

1. To ratify the declaration of Emergency
2. To pass a motion of no-confidence against the Council of Ministers
3. To impeach the President of India

Select the correct answer using the code given below :

- (a) 1 and 2  
 (b) 2 only  
 (c) 1 and 3  
 (d) 3 only

Q 67. Consider the following statements:

1. Powers of the Rajya Sabha is equal to that of the Lok Sabha in the passage of Constitutional Amendment Bills.
2. Powers of the Rajya Sabha is equal to that of the Lok Sabha in the approval of the proclamation of National Emergency by the President.
3. Powers of the Rajya Sabha is equal to that of the Lok Sabha in the revocation of the National Emergency.
4. Powers of the Rajya Sabha is equal to that of the Lok Sabha in creating new All-India

**POSITION OF RAJYA SABHA**

**EQUAL POWERS WITH LOK SABHA**

- Introduction and passage of ordinary bills, constitutional amendment bills, financial bills involving consolidated fund expenditure, ordinance bill and approval of 3 types of emergencies.
- Election and removal of vice president, president (removal is known as impeachment here) and making recommendations for removal of chief justice and judges, election commissioner and CAG.
- Selection of ministers from both the house but ministers are responsible to lok sabha alone.
- Enlargement of jurisdiction of Supreme Court and union public service commission.

**UNEQUAL STATUS WITH LOK SABHA**

- A money bill cannot be introduced, amended, rejected or hold for more than 14 days by the rajya sabha. Even the final power to decide money bill and presiding of joint sitting of parliament lies with the speaker of lok sabha.
- Rajya sabha cannot amend or vote on demand of grants, cannot vote for resolution to discontinue national emergency and also cannot vote for no confidence motion to topple the government.

**SPECIAL POWERS OF RAJYA SABHA**

- It can authorize the parliament to make laws on a subject enumerated in the state list according to article 249.
- It can authorize the parliament to create new All India Services common to both Centre and states according to article 312.

{19} UPSC 2022/ Set-B / Q- 26

> UPSC with Nikhil Test-14 Q-98 | Test-02 Q-42

26. With reference to anti-defection law in India, consider the following statements :

1. The law specifies that a nominated legislator cannot join any political party within six months of being appointed to the House.
2. The law does not provide any time-frame within which the presiding officer has to decide a defection case.

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

- B )

Q 42. Consider the following statements about the Anti-defection law:

1. The speaker's decision under the anti-defection law is immune from judicial review.
2. The anti-defection law does not apply to the nominated members of the Parliament.

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

- This would be similar to the process followed for disqualification in case the person holds an office of profit (i.e. the person holds an office under the central or state government which carries remuneration, and has not been excluded in a list made by the legislature).
- The law does not specify a time-period for the Presiding Officer to decide on a disqualification plea.
- Courts can intervene only after the Presiding Officer has decided on the matter, the petitioner seeking disqualification has no option but to wait for this decision to be made.
- The court held that ideally, Speakers should take a decision on a defection petition within three months.

**What constitutes defection? Who is the deciding authority?**

- The law covers three kinds of scenarios.
- One is when legislators elected on the ticket of one political party "voluntarily give up" membership of that party or vote in the legislature against the party's wishes.
- A legislator's speech and conduct inside and outside the legislature can lead to deciding the voluntarily giving up membership.
- The second scenario arises when an MP/MLA who has been elected as an independent joins a party later.
- The third scenario relates to **nominated legislators**. In their case, the law specifies that they can join a political party within six months of being appointed to the House, and not after such time.



{20} UPSC 2022/ Set-B / Q- 27  
> UPSC with Nikhil Test-41 Q-07

7. Consider the following statements :

1. Attorney General of India and Solicitor General of India are the only officers of the Government who are allowed to participate in the meetings of the Parliament of India. ✗
2. According to the Constitution of India, the Attorney General of India submits his resignation when the Government which appointed him resigns. ✗

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

Q 7. Consider the following statements about the Solicitor General of India:

1. The Solicitor General assists the Law Minister of India and is a part of the Law Commission of India.
2. Unlike the Attorney General, the Solicitor General does not give legal advice to the Government of India.
3. The Solicitor General is appointed by the President of India.

Which of the statements is/are correct?

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

Test: 41 (POLITY – V) (2022) | Test Code: A-22141 Contact

• Like the Attorney General for India, the Solicitor General and the Additional Solicitors General advise the Government and appear on behalf of the Union of India in terms of the Law Officers (Terms and Conditions) Rules, 1972.

• However, unlike the post of Attorney General for India, which is a Constitutional post under Article 76 of the Constitution of India, the posts of the **Solicitor General and the Additional Solicitors General are merely statutory.**

• Appointments Committee of the Cabinet (ACC) recommends the appointment and president officially appoints the Solicitor General.

• The proposal for appointment of Solicitor General, Additional Solicitor General is generally moved at the level of Joint secretary/Law Secretary in the Department of Legal Affairs and after obtaining the approval of the Minister of Law & Justice, the proposal goes to the ACC and then to the president.

Article 76 of the Indian Constitution provides for the office of the Attorney General for India. He is the highest law officer in the country. The Attorney General (AG) is appointed by the president. He must be a person who is qualified to be appointed a judge of the Supreme Court. In other words, he must be a citizen of India and he must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the president.

The term of office of the AG is not fixed by the Constitution. Further, the Constitution does not contain the procedure and grounds for his removal. He holds office during the pleasure of the president. This means that he may be removed by the president at any time. He may also quit his office by submitting his resignation to the president. **Conventionally, he resigns when the government (council of ministers) resigns or is replaced, as he is appointed on its advice.** The remuneration of the AG is not fixed by the Constitution. He receives such remuneration as the president may determine.



{21} UPSC 2022/ Set-B / Q- 28  
> UPSC with Nikhil Test-02 Q-96

28. With reference to the writs issued by the Courts in India, consider the following statements :

1. Mandamus will not lie against a private organisation unless it is entrusted with a public duty.
2. Mandamus will not lie against a Company even though it may be a Government Company.
3. Any public minded person can be a petitioner to move the Court to obtain the writ of Quo Warranto. X

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only X
- (c) 1 and 3 only
- (d) 1, 2 and 3 X

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Q 96. Consider the following statements regarding Writ of mandamus:

1. It is possible only when there is no alternative remedy.
2. It can be issued only for enforcement of fundamental rights
3. It commands the person or body to whom it is addressed to perform some public or quasi-public legal duty.

Which of the statements given above is/are correct?

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

Q 96. (C)

EXPLANATION

Protection to fundamental rights under constitutional remedies like mandamus is possible only when there is no other alternatives. So, statement 1 is correct.

It can be issued in enforcement of other rights. So, statement 2 is not correct.

Mandamus literally commands a public official asking him/her to perform official duties one has failed to do. So, statement 3 is correct.

ADDITIONAL INFORMATION:

MANDAMUS literally means 'we command'. It is a command issued by the court to a public official asking him to perform his official duties that he has failed or refused to perform.

It can also be issued against any public body, a corporation, an inferior court, a tribunal or government for the same purpose.

The writ of mandamus cannot be issued

- a) against a private individual or body;
- b) to enforce departmental instruction that does not possess statutory force;
- c) when the duty is discretionary and not mandatory;
- d) to enforce a contractual obligation;
- (e) against the president of India or the state governors; and
- (f) against the chief justice of a high court acting in judicial capacity.

Mandamus can be issued for regions other than Fundamental rights violation, for example: It can be issued against a public official who refuses to do is mandatory public duty.



{22} UPSC 2022/ Set-B / Q- 30  
> UPSC with Nikhil Test-01 Q-63

30. With reference to Deputy Speaker of Lok Sabha, consider the following statements :

1. As per the Rules of Procedure and Conduct of Business in Lok Sabha, the election of Deputy Speaker shall be held on such date as the Speaker may fix.
2. There is a mandatory provision that the election of a candidate as Deputy Speaker of Lok Sabha shall be from either the principal opposition party or the ruling party.
3. The Deputy Speaker has the same power as of the Speaker when presiding over the sitting of the House and no appeal lies against his rulings.
4. The well established parliamentary practice regarding the appointment of Deputy Speaker is that the motion is moved by the Speaker and duly seconded by the Prime Minister.

Which of the statements given above are correct ?

- (a) 1 and 3 only  
(b) 1, 2 and 3  
(c) 3 and 4 only  
(d) 2 and 4 only

Q 63. (D)

#### OPTION ELIMINATION STRATEGY

The post of Deputy speaker originated during the British times itself. So its unlikely that this provision is not present in the original constitution. So option (a) can be eliminated.

#### EXPLANATION:

Article 93 of the Indian Constitution provides the office of speaker and Deputy speaker who is elected from the Lok Sabha itself from amongst its members. So option (d) is correct.

#### ADDITIONAL INFORMATION:

##### OFFICE OF DEPUTY SPEAKER:

The institution of Speaker and Deputy Speaker originated in India in 1921 under the Montague-Chelmsford reforms. At that time Speaker and Deputy Speaker were called president and Vice-President.

The procedure of the election of the Deputy Speaker is same as that of the Speaker, the Deputy Speaker is elected from among the members of the Legislative Assembly.

In the absence of the Speaker or when the Office of the Speaker is vacant, the duties of the Speaker are performed by the Deputy Speaker. When the Deputy Speaker presides over a sitting of the Legislative Assembly, he has the same powers as the Speaker.

The Deputy Speaker holds office till the dissolution of the Legislative Assembly, unless he ceases to be a member of the Parliament.

Q 63. Which one of the following statement is correct about the Office of Deputy Speaker of Lok Sabha?

- (A) Originally, the constitution did not have a provision for the post of Deputy Speaker of Lok Sabha  
(B) The post is necessary for the smooth functioning of the Lok Sabha and without him/her, the House cannot function  
(C) The Deputy Speaker is subordinate to the Speaker but not to the Lok Sabha  
(D) The Deputy Speaker is elected by the Lok Sabha itself from amongst its members



{23} UPSC 2022/ Set-B / Q- 32  
> UPSC with Nikhil Test-29 Q-36

32. With reference to the Indian economy, consider the following statements :

1. An increase in Nominal Effective Exchange Rate (NEER) indicates the appreciation of rupee.
2. An increase in the Real Effective Exchange Rate (REER) indicates an improvement in trade competitiveness.
3. An increasing trend in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER.

Which of the above statements are correct ?

- (a) 1 and 2 only  
~~(b) 2 and 3 only~~  
(c) 1 and 3 only  
(d) 1, 2 and 3

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### TYPES OF EXCHANGE RATE AND CURRENCY MOVEMENTS

In finance, an exchange rate (also known as a foreign-exchange rate, forex rate, or rate) between two currencies is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in terms of another currency. In simple words exchange rate refers to the number of units of a local currency required to purchase one unit of some internationally recognised standard currency usually the US Dollar. The way in which an authority manages its currency in relation to other currencies and the foreign exchange market is known as the exchange rate regime. The three major types of exchange rate systems are the fixed rate, the floating rate, and the managed rate.

Since a country interacts with many countries, we may want to see the movement of the domestic currency relative to all other currencies in a single number rather than by looking at bilateral rates. That is, we would

want an index for the exchange rate against other currencies, just as we use a price index to show how the prices of goods in general have changed. This is calculated as the **Nominal Effective Exchange Rate (NEER)** which is a multilateral rate representing the price of a representative basket of foreign currencies, each weighted by its importance to the domestic country in international trade (the average of export and import shares is taken as an indicator of this). **The Real Effective Exchange Rate (REER)** is calculated as the weighted average of the real exchange rates of all its trade partners, the weights being the shares of the respective countries in its foreign trade. It is interpreted as the quantity of domestic goods required to purchase one unit of a given basket of foreign goods.



{24} UPSC 2022/ Set-B / Q- 33

> UPSC with Nikhil Test-28 Q-44 | Test-35 Q-29 | Test-49 Q-55

88. With reference to the Indian economy, consider the following statements :

1. If the inflation is too high, Reserve Bank of India (RBI) is likely to buy government securities.
2. If the rupee is rapidly depreciating, RBI is likely to sell dollars in the market.
3. If interest rates in the USA or European Union were to fall, that is likely to induce RBI to buy dollars.

Which of the statements given above are correct ?

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

Q 55. Which of the following situations may lead to an increase in aggregate demand in an economy?

1. Lower interest rates
2. Increase in household wealth
3. Expectation of falling inflation
4. Rise in value of Indian Rupee

Select the correct answer using the code given below;

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

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Q 55. (A)

Explanation:

Statement 3 is incorrect: If consumers believe prices will fall in the future, aggregate demand tends to fall as well.

Statement 4 is incorrect: If value of Indian Rupee rises, foreign goods will become less expensive and thus aggregate demand for Indian goods will decline.

Supplementary notes:

**Aggregate Demand**

Aggregate demand is an economic measurement of the total amount of demand for all finished goods and services produced in an economy.

Aggregate demand is expressed as the total amount of money exchanged for those goods and services at a specific price level and point in time.

Aggregate demand over the long-term equals gross domestic product (GDP) because the two metrics are calculated in the same way. GDP represents the total amount of goods and services produced in an economy while aggregate demand is the demand or desire for those goods. As a result of the same calculation methods, the aggregate demand and GDP increase or decrease together.

The following are some of the key economic factors that can affect the aggregate demand in an economy:

**Changes in Interest Rates:** Whether interest rates are rising or falling will affect decisions made by consumers and businesses. Lower interest rates will lower the borrowing costs for big-ticket items such as appliances, vehicles, and homes. Also, companies will be able to borrow at lower rates which lead to capital spending increases. Conversely, higher interest rates increase the cost of borrowing for consumers and companies. As a result, spending tends to decline or grow at a slower pace, depending on the extent of the increase in rates.

**Income and Wealth:** As household wealth increases, aggregate demand usually increases as well. Conversely, a decline in wealth usually leads to lower aggregate demand.

**Changes in Inflation Expectations:** Consumers who feel that inflation will increase or prices will rise, tend to make purchases now, which leads to rising aggregate demand. But if consumers believe prices will fall in the future, aggregate demand tends to fall as well.

**Currency Exchange Rate Changes:** If the value of the Indian rupee falls (or rises), foreign goods will become more (or less expensive). Meanwhile, goods manufactured in India will become cheaper (or more expensive) for foreign markets. Aggregate demand will, therefore, increase (or decrease).



{25} UPSC 2022/ Set-B / Q- 35  
> UPSC with Nikhil Test-29 Q-01

With reference to the Indian economy, what are the advantages of "Inflation-Indexed Bonds (IIBs)" ?

1. Government can reduce the coupon rates on its borrowing by way of IIBs.
2. IIBs provide protection to the investors from uncertainty regarding inflation.
3. The interest received as well as capital gains on IIBs are not taxable.

Which of the statements given above are correct ?

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

Q 1. (C)

**Explanation:**

Inflation Indexed Bond (IB) is a bond issued by the Sovereign, which provides the investor a constant return irrespective of the level of inflation in the economy. The main objective of Inflation Indexed Bonds is to provide a hedge and to safeguard the investor against macroeconomic risks in an economy. So, Statement 1 is correct.

There are no special tax concessions for these bonds. IIBs are treated as government securities (G- Sec) and therefore, would be eligible for short-sale and repo transactions and gets SLR status (i-e., they are eligible to be kept as part of Statutory Liquidity Ratio requirements of banks). So, Statement 2 is correct.

**Additional Information:-**

In the Indian context, inflation was one of the major macroeconomic concerns of the economy during the period 2008-2013 where real interest rates were consistently negative. The period also was noted for the high current account deficit (CAD), which saw huge investment in the alternate instrument — gold — by the households, necessitating heavy import of gold. In order to reduce the attractiveness of gold for investment and reduce the CAD, the Government of India launched Inflation indexed bonds (IIB) on 4 June 2013.

The Reserve Bank of India auctioned its first tranche, linking to Wholesale Price Index (WPI) inflation, as WPI headline inflation was then used as the key measure of inflation by RBI. IIB bonds were issued on monthly basis (on last Tuesday of each month) till December 2013. These bonds offered annual return of 1.44% (through half yearly coupon) over and above the headline

inflation (WPI). These 10 year bonds could be traded in the Order Matching Negotiated Dealing Systems (NDS-OM), NDS-OM (web-based), Over the Counter (OTC) market, and stock exchanges. Approximately IIB bonds worth Rs 6500 crore were issued in 2013.

Over the time, IIB bonds lost its attractiveness, as there has been significant moderation in inflation since 2014-15. The IIB bonds turned highly illiquid, as WPI inflation remained negative for consecutive 15 months (as on Feb 2015) since November 2014. With a view to improve the liquidity in G Secs market, Government decided to buy back the IIB bonds. The Government of India announced the repurchase of 1.44% Inflation government stocks 2023 in February 2016 through reverse auction for an aggregate amount of Rs. 6500 crore (face value). The repurchase was undertaken as an adhoc measure to redeem the government stock prematurely by utilizing surplus cash balance.

Q 1. Consider the following statements about Inflation Indexed Bonds:

1. It gives a constant minimum real return irrespective of inflation level in the economy.
2. They are eligible to be kept as part of Statutory Liquidity Ratio requirements of banks.

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



{26} UPSC 2022/ Set-B / Q- 39  
> UPSC with Nikhil **Test-24 Q-03**

With reference to the expenditure made by an organisation or a company, which of the following statements is/are correct ?

1. Acquiring new technology is capital expenditure.
2. Debt financing is considered capital expenditure, while equity financing is considered revenue expenditure.

Select the correct answer using the code given below :

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

### Capital Expenditure

- Capital expenditures (CAPEX) are funds used by a company to acquire, upgrade, and maintain physical assets such as equipment.
- Capital expenditures are typically one-time large purchases of fixed assets that will be used for revenue generation over a longer period.
- Capital expenditures are often used for buying fixed assets, which are physical assets such as equipment.
- As a result, capital expenditures are typically for larger amounts than revenue expenditures.
- Since long-term assets provide income-generating value for a company for a period of years, companies are not allowed to deduct the full cost of the asset in the year the expense is incurred.
- Instead, they must recover the cost through year-by-year depreciation over the useful life of the asset.
- In other words, the cost of capital expenditures is spread out over many periods or years, whereas revenue expenditures are expensed in the current year or period.
- Examples of capital expenditure:
  - o Facility or factory, including an upgrade or expansion
  - o Vehicles, such as trucks used for the delivery of products
  - o Manufacturing equipment
  - o Computers
  - o Furniture

**Q 3.** Consider the following statements with respect to capital expenditure and revenue expenditure:

1. Revenue expenditures are one-time large purchases of fixed assets, used for revenue generation in daily business operations.
2. Capital expenditures are the ongoing expenses, which are short-term, used for revenue generation over a longer period.

Which of the above statement(s) is/are correct?

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

{27} UPSC 2022/ Set-B / Q- 41

> UPSC with Nikhil **Test-49 Q-01 | Test-33 Q-28**

41. Among the following crops, which one is the most important anthropogenic source of both methane and nitrous oxide?

(a) Cotton

(b) Rice

(c) Sugarcane

(d) Wheat

Q 28. Methane (CH<sub>4</sub>) is one of the six Green House Gases under the Kyoto protocol. Which of the following are the sources of methane?

1. Gas drilling
2. Paddy fields
3. Bio fuels

Select the correct answer using the code given below:

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

#### Explanation:

All statements are correct:

#### Supplementary Notes:

##### Methane Emissions

One of the greenhouse gases responsible for this global warming is methane. It is emitted naturally and anthropogenically from different sources and its concentration in the atmosphere has assumed alarming proportions. It is observed that the agricultural sector emits the highest amount of methane, followed by the energy and waste sectors, respectively.

**Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.**

**It is emitted during the production and transport of coal, natural gas, and oil.**

It is released from submerged soils to the atmosphere through the roots and stems of rice plants, which corresponds to 6 to 29 percent of total annual anthropogenic methane emission.

- Gas Drilling (Fossil fuel) production and intensive livestock farming have caused the current increase in methane levels. Together these two sources are responsible for 60% of all human methane emissions.
- Other sources include landfills and waste (16%), biomass burning (11%), Paddy Fields (rice agriculture) (9%) as well as bio fuels (4%)



{28} UPSC 2022/ Set-B / Q- 45

> UPSC with Nikhil **Test-42 Q-81 | Test-46 Q-73**

Consider the following pairs :

- | Peak             | Mountains                |
|------------------|--------------------------|
| 1. Namcha Barwa  | — Garhwal Himalaya       |
| 2. Nanda Devi    | — Kumaon Himalaya        |
| 3. <u>Nokrek</u> | — <u>Sikkim Himalaya</u> |

Which of the pairs given above is/are correctly matched ?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

**Q 73.** Select the correct arrangement of the following mountain peaks from west to east:

- (A) Mount Everest – Nokrek – Phawngpui – Saramati
- (B) Phawngpui - Mount Everest – Nokrek – Saramati
- (C) Mount Everest – Nokrek – Saramati – Phawngpui
- (D) Phawngpui – Saramati – Nokrek - Mount Everest

Q 73. (A)

**Explanation:**

**Correct arrangement is:** Mount Everest – Nokrek – Phawngpui – Saramati

**Supplementary notes:**

**Mountain Peaks**

Recently joint Chinese-Nepali calculation confirmed the marginal increase in the height of Mount Everest, ending the long-running debate over the precise dimensions of the mountain.

Located on the border between Nepal and the Tibet Autonomous Region of China, Mount Everest is the highest mountain in the world above sea level.

Nokrek is the highest peak in the Garo Hills range of Meghalaya. The region is famous for Nokrek National Park and Biosphere reserve.

Phawngpui or the Blue Mountain is the highest peak in Mizoram and is situated near the state’s south-eastern border overlooking the bend of the mighty Chhimtuipui River and the hill ranges of Myanmar.

Saramati is the highest peak in the state of Nagaland and is located on the Nagaland-Myanmar border.

The peak remains snow-capped throughout the winter and gradually melts and flows into the Likimro River.



Besides the longitudinal divisions, the Himalayas have been divided on the basis of regions from west to east. These divisions have been demarcated by river valleys. For example, the part of Himalayas lying between Indus and Satluj has been traditionally known as Punjab Himalaya but it is also known regionally as Kashmir and Himachal Himalaya from west to east respectively. The part of the Himalayas lying between Satluj and Kali rivers is known as Kumaon Himalayas. The Kali and Tista rivers demarcate the Nepal Himalayas and the

{29} UPSC 2022/ Set-B / Q- 46

> UPSC with Nikhil **Test-34 Q-09 | Test-38 Q-82**

Q. The term "Levant" often heard in the news roughly corresponds to which of the following regions ?

- (a) Region along the eastern Mediterranean shores
- (b) Region along North African shores stretching from Egypt to Morocco
- (c) Region along Persian Gulf and Horn of Africa
- (d) The entire coastal areas of Mediterranean Sea

Q 82. (C)

Explanation:

Option (c) is correct

Supplementary notes:

Gulf of Iskenderun

The Gulf of Alexandretta or Iskenderun is a gulf of the eastern Mediterranean or Levantine Sea. It lies beside the southern Turkish provinces of Adana and Hatay.

It was also formerly known as the Sea or Gulf of Issus.

The Gulf of Alexandretta forms the easternmost bay or inlet of the Mediterranean Sea.

routes leading to Black Sea ports. The custom duties levied on these goods was a rich source of profit to the Arab and Turkish rulers, and they had every reason to protect and cherish this trade. Despite the Pope banning trade with the heathens, i.e. Muslims, Genoese and Venetian merchants were active in the trade in oriental goods. In fact, the Venetian merchants had a virtual monopoly of buying the oriental goods in Egypt and the Levant, and distributing them all over Europe. Though the Venetians and the Turks fought long and bitter naval battles, neither side pushed it to a level which might harm their mutual trade. They were hence considered "complementary enemies". The principal rivals of the Venetians in Europe were the Genoese. The Genoese were also active in distributing oriental goods in Europe, but had been side-lined by the Venetians. The capture of Constantinople by the Turks in 1453 was a big blow to the Genoese because the Black Sea ports, their principal mart for oriental goods, were gradually closed to them. This, and their old rivalry with Venice were the main factors which led Genoa to help Portugal and Spain with ships, money and nautical skills in searching for a sea-route to India. As is well known, Christopher Columbus who 'discovered' America (or re-discovered, because the Norsemen had reached there earlier, as also the Red Indians) in 1492 in his effort to find a sea-route to India was a Genoese.

Interest in the search for a sea-route to India was spurred also by the Renaissance which challenged rooted modes of thought, and created a new spirit of daring. At its background was the economic growth of Europe from the 11th century. Recent research shows that with growing prosperity and growth, the dietary habits of the Europeans had also changed, with more meat being consumed. Much of the cattle in Europe had to be killed during winter due to shortage of fodder, and the meat salted away. Oriental spices were even more in demand in order to make the salted meat more palatable.



{30} UPSC 2022/ Set-B / Q- 47  
> UPSC with Nikhil **Test-04 Q-37**

47. Consider the following countries :

1. Azerbaijan
2. Kyrgyzstan
3. Tajikistan
4. Turkmenistan
5. Uzbekistan

Which of the above have borders with Afghanistan ?

- (a) 1, 2 and 5 only  
(b) 1, 2, 3 and 4 only  
(c) 3, 4 and 5 only  
(d) 1, 2, 3, 4 and 5

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Q 37. Which of the following countries shares borders with Afghanistan?

- (A) Iran, Tajikistan, Uzbekistan  
(B) China, Pakistan, Kyrgyzstan  
(C) India, Kazakhstan, Pakistan  
(D) Mongolia, Iran, Uzbekistan

Q 37. (A)

**EXPLANATION:**

Afghanistan is bordered by India in the north west, Iran on the west, by Pakistan on the east and south, and by Turkmenistan, Uzbekistan, and Tajikistan on the north; a narrow strip, the Vakhan (Wakhan), extends in the northeast along Pakistan to the Xinjiang Uygur Autonomous Region of China.

India shares land borders with seven sovereign nations. The state's Ministry of Home Affairs also recognizes a 106 kilometres (66 mi) land border with an eighth nation, Afghanistan, as part of its claim of the Kashmir region (see Durand Line).

So, Option (a) is correct.



{31} UPSC 2022/ Set-B / Q- 48  
> UPSC with Nikhil **Test-22 Q-38**

With reference to India, consider the following statements :

1. Monazite is a source of rare earths.
2. Monazite contains thorium.
3. Monazite occurs naturally in the entire Indian coastal sands in India.
4. In India, Government bodies only can process or export monazite.

Which of the statements given above are correct ?

- (a) 1, 2 and 3 only
- (b) 1, 2 and 4 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

**Q 38.** Which of the following statements is *not* correct with respect to the atomic minerals in India?

- (A) The production of Uranium is confined to the mines of Kadapa district of Andhra Pradesh
- (B) India possesses the world's largest monazite reserves which is the principal source of thorium
- (C) The beach sands of Kerala in Palghat and Quilon districts contain rich deposits of monazite
- (D) Uranium is found in igneous and metamorphic rocks in India

Test: 22 (CURRENT AFFAIRS - XIII) (2022) | Test Code: A

**Q 38. (A)**

- Atomic energy can be produced by fission or fusion of the atoms or rather the nuclear parts of radio-active minerals like uranium thorium and radium. **India possesses the world's largest reserves of monazite, the principal source of thorium and some reserves of uranium.**
- In India, **uranium is embedded in the igneous and metamorphic rocks in Jharkhand, Rajasthan, Andhra Pradesh and some parts of Himalaya.** A substantial source of uranium deposits is also found in the monazite sands along the Kerala coasts.
- The production of **uranium is at the mines at Jaduguda in Singhbhum district of Jharkhand. Soon, India's biggest uranium mine will come up in Kadapa district of Andhra Pradesh where 6,000 tonnes of uranium will be produced everyday.** Hence option (a) is the correct answer.
- Thorium is principally obtained from monazite. **The beach sands of Kerala in Palghat and Quilon district contain the world's richest monazite deposits.** It also occurs on the sands of Visakhapatnam in Andhra Pradesh.



49. In the northern hemisphere, the longest day of the year normally occurs in the :

- (a) First half of the month of June
- (b) Second half of the month of June
- (c) First half of the month of July
- (d) Second half of the month of July

June 21

Q 16. Consider the following pairs:

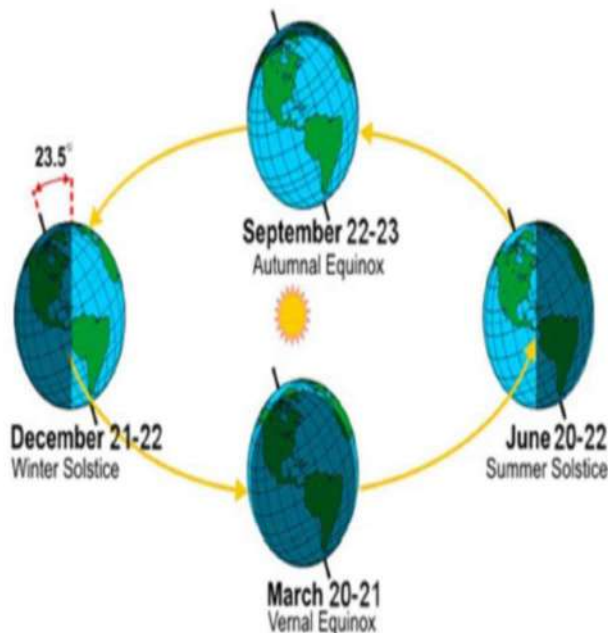
- | Date              | Seasons                         |
|-------------------|---------------------------------|
| 1. 21st March     | - Spring in Southern Hemisphere |
| 2. 21st June      | - Summer in Northern Hemisphere |
| 3. 23rd September | - Autumn in Southern Hemisphere |
| 4. 22nd December  | - Winter in Northern Hemisphere |

Which of the pairs given above is/are correctly matched?

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

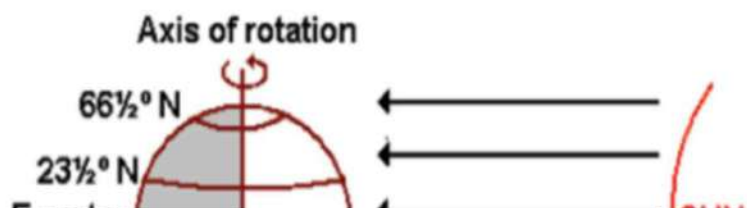
There are only two times of the year when the Earth's axis is tilted neither toward nor away from the sun, resulting in a "nearly" equal amount of daylight and darkness at all latitudes. These events are referred to as Equinoxes. The word equinox is derived from two Latin words - aequus (equal) and nox (night). At the equator, the sun is directly overhead at noon on these two equinoxes.

The summer solstice occurs at the moment the earth's tilt toward from the sun is at a maximum. The summer solstice occurs when the sun is directly over the Tropic of Cancer, which is located at 23.5° latitude north, and runs through Mexico, the Bahamas, Egypt, Saudi Arabia, India, and southern China. For every place north of the Tropic of Cancer, the sun is at its highest point in the sky and this is the longest day of the year.



The winter solstice marks the shortest day and longest night of the year. In the Northern Hemisphere, it occurs when the sun is directly over the Tropic of Capricorn, which is located at 23.5° south of the equator and runs through Australia, Chile, southern Brazil, and northern South Africa.

We all know that the Earth makes a complete revolution around the sun once every 365 days, following an orbit that is elliptical in shape. This means that the distance between the Earth and Sun, which is 93 million miles on average, varies throughout the year. During the first week in January, the Earth is about 1.6 million miles closer to the sun. This is referred to as the perihelion. The aphelion, or the point at





{33} UPSC 2022/ Set-B / Q- 50  
> UPSC with Nikhil Test-07 Q-43

50X Consider the following pairs :

Wetland / Lake	Location
1. Hokera Wetland	— Punjab
2. Renuka Wetland	— Himachal Pradesh
3. Rudrasagar Lake	— Tripura
4. Sasthamkotta Lake	— Tamil Nadu

How many pairs given above are correctly matched ?

(a) Only one pair  
(b) Only two pairs  
(c) Only three pairs  
(d) All four pairs

B )

Q 43. Consider the following statements:

1. It is included in the list of 'wetlands of international importance', as defined by the Ramsar Convention.
2. The Kumarakom Bird Sanctuary is located on the east coast of this lake.
3. It is the longest lake in India.

The above statements mention about which one of the following wetlands?

- (A) Ashtamudi Wetland  
(B) Vembanad-Kol Wetland  
(C) Sasthamcotta Lake  
(D) Kolleru Lake

Punnamada Lake in Kuttanad and Kochi Lake in Kochi. Several groups of small islands including Vypin, Mulavukad, Vallarpadam, Willingdon Island are located in the Kochi Lake portion. Kochi Port is built around the Willingdon Island and the Vallarpadam island. So option (b) is correct.

Sasthamcotta Lake or Sasthamkotta Lake, also categorized as a wetland, is the largest fresh water lake in Kerala, a state of India on the south of the West Coast. The lake is named after the ancient Sastha temple (a pilgrimage centre) located on its bank. It meets the drinking water needs of half million people of the Quilon district and also provides fishing resources. The purity of the lake water for drinking use is attributed to the presence of large population of larva called cavaborus that consumes bacteria in the lake water. The lake is a designated wetland of international importance under the Ramsar Convention since November 2002. So option (c) is not correct.

Kolleru Lake is one of the largest freshwater lakes in India located in state of Andhra Pradesh and forms the largest shallow freshwater lake in Asia, 15 kilometers away from the Eluru and 65km from Rajamahendravaram. Kolleru is located between Krishna and Godavari deltas. Kolleru spans into two districts – Krishna and West Godavari. The lake is fed directly by water from the seasonal Budameru and Tammileru streams, and is connected to the Krishna and Godavari irrigation systems by over 67 major and minor irrigation canals. This lake is a major tourist attraction. So option (d) is not correct.



{34} UPSC 2022/ Set-B / Q- 52

> UPSC with Nikhil Test-26 Q-03 | Test-27 Q-47

Consider the following pairs :

King	Dynasty
1. Nannuka	— Chandela
2. Jayashakti	— Paramara
3. Nagabhata II	— Gurjara-Pratihara
4. Bhoja	— Rashtrakuta

How many pairs given above are correctly matched ?

- (a) Only one pair
- (b) Only two pairs
- (c) Only three pairs
- (d) All four pairs

Q 3. Which of the following statements regarding Gurjara-Pratiharas are correct?

- 1. King Bhoja, the greatest Pratihara king, was a devotee of Vishnu, and adopted the title of 'Adivaraha'.
- 2. According to the Arab travellers, the Pratihara rulers had the best cavalry in India.
- 3. The dissolution of the Pratihara empire was due to the frequent raids from the Arab armies of Sind.

Select the correct option using the codes given below:

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

Q 3. (A)

Explanation:

- **Statement 3 is incorrect:** The dissolution was caused by the frequent attacks from the Rashtrakutas.
- **Trap:** The Gurjara-Pratiharas were instrumental in containing Arab armies from Sind.

Supplementary notes:

**The Pratiharas**

- The Pratiharas who ruled over Kanauj for a long time are also called Gurjara-Pratiharas. Most scholars consider that they originated from the Gurjaras who were pastoralists and fighters, like the Jats.
- They established a series of principalities in central and eastern Rajasthan. They clashed with the Rashtrakutas for the control of Malwa and Gujarat, and later for Kanauj which implied control of the upper Ganga valley.
- The **Pratiharas** who first had their capital at Bhinmal gained prominence under Nagabhata I who offered stout resistance to the Arab rulers of Sind who were trying to encroach on Rajasthan, Gujarat, the Punjab, etc. The Arabs made a big thrust towards Gujarat but were decisively defeated by the Chalukyan ruler of Gujarat in 738. Although small Arab incursions continued, the Arabs ceased to be a threat thereafter.
- The efforts of the early Pratihara rulers to extend their control over the upper Ganga valley and Malwa were defeated by the Rashtrakuta rulers Dhruva and Gopal III. In 790 and again in 806-07, the Rashtrakutas defeated the Pratiharas, and then withdrew to the Deccan, leaving the field free for the Palas. Perhaps the main interest of the Rashtrakutas was the domination of Malwa and Gujarat.

**Mihir Bhoja**

- The real founder the Pratihara empire and the greatest ruler of the dynasty was Bhoja. He rebuilt the empire, and by about 836 he had recovered Kanauj which remained the capital of the Pratihara empire for almost a century.
- **Bhoja** tried to extend his sway in the east but he was defeated and checkmated by the Pala ruler, Devapala. He then turned towards central India and the Deccan and Gujarat. This led to a revival of the struggle with the Rashtrakutas. In a sanguinary battle on the bank of the Narmada, Bhoja was able to retain his control over considerable parts of Malwa, and some parts of Gujarat. But he could progress no further in the Deccan. Hence, he turned his attention to the north again.
- According to an inscription, his territories extended to the western side of the river Sutlej.
- **Bhoja** was a devotee of Vishnu, and adopted the title of 'Adivaraha' which has been found inscribed in some of his coins. He is sometimes called Mihir Bhoja to distinguish him from Bhoja Paramara of Ujjain who ruled a little later. Bhoja probably died in about 885. He was succeeded by his son Mahendrapala I. He had only 2000 elephants trained for war, but the best cavalry of any king in the country.
- Dharmapala could not, however, consolidate his power in north India. The **Pratihara power** revived under **Nagabhata II**. Dharmapala fell back, but was defeated near Mongyr.
- Bihar and modern east Uttar Pradesh remained a bone of contention between the Palas and the Pratiharas. However, Bihar, in addition to Bengal, remained under the control of the Palas for most of the time.



{35} UPSC 2022/ Set-B / Q- 53

> UPSC with Nikhil **Test-27 Q-42 | Test-45 Q-31**

Which one of the following statements about Sangam literature in ancient South India is correct ?

- (a) Sangam poems are devoid of any reference to material culture.
- (b) The social classification of Varna was known to Sangam poets.
- (c) Sangam poems have no reference to warrior ethic.
- (d) Sangam literature refers to magical forces as irrational.

**Q 31.** With reference to the Ancient Indian history, consider the following statements about the "Sangam Age":

1. During this period, the southern part of India was mostly reigned by the rulers of Kalabhra dynasty and Pallava dynasty.
2. The Hero stone worship was very significant during this period.
3. During this period, there were many women poets flourished and contributed to the Tamil literature.

Which of the statements is/are correct?

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

## THE SANGAM LITERATURE

All that has been stated above about the life of the Tamils in the beginning of the historical period is based on the Sangam literature. As shown earlier, the Sangam was a college or assembly of Tamil poets held probably under the patronage of the chiefs or kings. We, however, neither know the number of Sangams nor the period for which they were held. It is stated in a Tamil commentary of the middle of the eighth century that three Sangams lasted for 9990 years and were attended by 8598 poets, and had 197 Pandya kings as patrons. All this is wild exaggeration. All that can be said is that a Sangam was held under royal patronage in Madurai.

The available Sangam literature, which was produced by these assemblies, was compiled in c. AD 300– 600. However, parts of this literature look back to at least the second century AD. The Sangam literature can roughly be divided into two groups, narrative and didactic. The narrative texts are called Melkannakku or Eighteen Major Works. They comprise eighteen major works consisting of eight anthologies and ten idylls. The didactic works are called Kilkanakku or Eighteen Minor Works.

Both these types of texts suggest several stages of social evolution. The narrative texts are considered works of heroic poetry in which heroes are glorified and perpetual wars and cattle raids are frequently mentioned. They show that the early Tamil people were primarily pastoral. Traces of early megalithic life appear in the Sangam texts. The earliest megalithic people seem to be primarily pastoralists, hunters, and fishermen, though they also produced rice. Hoes and sickles occur at many sites in peninsular India but not ploughshares. Other iron objects include wedges, flat celts, arrowheads, long swords and lances, spikes and spearheads, horse-bits, and the like. These tools were meant primarily for war and hunting. This has some parallels in the Sangam texts which speak of perpetual war and cattle raids. The texts suggest that war booty was an important source of livelihood. They also state that when a hero dies he is reduced to a piece of stone. This reminds us of the circles of stone that were raised over the graves of the megalithic people. This may have led to the later practice of raising hero stones called virarkal in honour of the heroes who had died fighting for kine and other things. It is likely that the earliest phase of social evolution reflected in the Sangam works relates to the early megalithic stage.

The narrative Sangam texts give some idea of the state formation in which the army consisted of groups of warriors, and the taxation system and judiciary arose in a rudimentary form. The texts also tell us about trade, merchants, craftsmen, and farmers. They speak of several towns such as Kanchi, Korkai, Madurai, Puhar, and Uraiyur. Of them, Puhar or Kaveripattanam was the most important. The Sangam references to towns and economic activities are corroborated by Greek and Roman accounts, and by the excavation of the Sangam sites.



{36} UPSC 2022/ Set-B / Q- 55

> UPSC with Nikhil Test-27 Q-37 | Test-44 Q-18

55. The world's second tallest statue in sitting pose of Ramanuja was inaugurated by the Prime Minister of India at Hyderabad recently. Which one of the following statements correctly represents the teachings of Ramanuja?

- (a) The best means of salvation was devotion.
- (b) Vedas are eternal, self-existent and wholly authoritative.
- (c) Logical arguments were essential means for the highest bliss.
- (d) Salvation was to be obtained through meditation.

Q 18. Consider the following statements:

1. He was the first Indian philosopher to provide a systematic theistic interpretation of the philosophy of the Vedas.
2. He provided an intellectual basis for the practice of bhakti.
3. Shri-bhashya and Bhagavadgita- bhashya were written by him.

Which of the following Indian philosophers has been described above?

- (A) Adi Shankaracharya
- (B) Madhavacharya
- (C) Ramanujacharya
- (D) Mandan Mishra

Q 18. (C)

#### Ramanujacharya

- Ramanuja (1017–1137) was a Vedic spiritual leader, philosopher, and a mystic who is recognized as one of the most influential thinkers in Hinduism.
- He was the chief proponent of Vishishtadvaita. He was the first Indian philosopher to provide a systematic theistic interpretation of the philosophy of the Vedas, and is famous for arguing for the epistemic and soteriological significance of bhakti, or devotion to a personal God.
- After a long pilgrimage, Ramanuja settled in Shrirangam, where he organized temple worship and founded centers to disseminate his doctrine of devotion to the god Vishnu and his consort Shri (Lakshmi).
- He provided an intellectual basis for the practice of bhakti (devotional worship) in three major commentaries: the Vedartha-samgraha (on the Vedas, the earliest scriptures of Hinduism), the Shri-bhashya (on the Brahmasutras), and the Bhagavadgita-bhashya (on the Bhagavadgita).

Ramanuja is the main proponent of Vishishtadvaita philosophy. So, Statement 1 is correct. Ramanuja took interest in propagating the doctrine of Bhakti to social groups outside the varnashrama system. So, Statement 2 is correct

#### ADDITIONAL INFORMATION:

##### Ramanuja

- In the year 1017 A.D., Ramanuja was born in the village of Perumbudur, about twenty-five miles west of Madras.
- Ramanuja's Tamil name was Ilaya Perumal. Quite early in life, Ramanuja lost his father. Then he came to Kancheepuram to prosecute his study of the Vedas under one Yadavaprakasha, a teacher of Advaita philosophy.
- He wrote his commentary on the Brahma Sutras known as the Sri Bhashya. The Visishtadvaita system is an ancient one. It was expounded by Bodhayana in his Vritti, written about 400 B.C.



{37} UPSC 2022/ Set-B / Q- 57

> UPSC with Nikhil Test-38 Q-14

57. Which one of the following statements best describes the role of B cells and T cells in the human body ?

- (a) They protect the body from environmental allergens.
- (b) They alleviate the body's pain and inflammation.
- (c) They act as immunosuppressants in the body.
- (d) They protect the body from the diseases caused by pathogens.

Q 14. Which of the following statements is/ are correct about the function of m-RNA vaccines in providing immunity against viral diseases?

1. T-cells and B-cells can recognize m-RNA in m-RNA vaccines as a pathogen.
2. The same m-RNA sequence can be used for immunization against many viruses.
3. m-RNA may enter any cell in the body after a dose of vaccine, and the cell will synthesize the antigenic protein of the target virus to invoke an immune response.

Select the correct answer using the code given below:

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

An m-RNA vaccine is a type of vaccine that uses a copy of a molecule called messenger RNA (m-RNA) to produce an immune response. The vaccine delivers molecules of antigen-encoding m-RNA into immune cells, which use the designed m-RNA as a blueprint to build foreign protein that would typically be produced by a pathogen (such as a virus) or a cancer cell. These protein molecules stimulate an adaptive immune response that teaches the body to identify and destroy the corresponding pathogen or cancer cells. A co-formulation delivers the m-RNA of the RNA encapsulated in lipid nanoparticles that protect the RNA strands and help their absorption into the cells.

Reactogenicity, the tendency of a vaccine to produce adverse reactions, is similar to that of conventional non- RNA vaccines. People susceptible to an autoimmune response may negatively respond to messenger RNA vaccines. The advantages of m-RNA vaccines over traditional vaccines are ease of design, speed and lower cost of production, cellular and humoral immunity induction, and lack of interaction with the genomic DNA. While some messenger RNA vaccines, such as the Pfizer–BioNTech COVID-19 vaccine, have the disadvantage of requiring ultracold storage before distribution, other m-RNA vaccines, such as the Moderna, CureVac, and Walvax COVID-19 vaccines, do not have such requirements.

The first successful transfection of designed m-RNA packaged within a liposomal nanoparticle into a cell was published in 1989. Naked (or unprotected) lab-made m-RNA was injected a year later into the muscle of mice. These studies were the first evidence that in vitro transcribed m-RNA with a chosen gene delivered the genetic information to produce the desired protein within living cell tissue and led to the concept proposal of messenger RNA vaccines.

Liposome-encapsulated m-RNA encoding a viral antigen was shown in 1993 to stimulate T cells in mice. The following year self-amplifying m-RNA was developed by including both a viral antigen and the Replicase encoding gene. The method was used in mice to elicit both a humoral and cellular immune response against a viral pathogen. The following year m-RNA encoding a tumour antigen elicited a similar immune response against cancer cells in mice.



{38} UPSC 2022/ Set-B / Q- 58  
> UPSC with Nikhil Test-07 Q-65

58. Consider the following statements :

1. Other than those made by humans, nanoparticles do not exist in nature.
2. Nanoparticles of some metallic oxides are used in the manufacture of some cosmetics.
3. Nanoparticles of some commercial products which enter the environment are unsafe for humans.

Which of the statements given above is/are correct ?

(a) 1 only

(b) 3 only

(c) 1 and 2

(d) 2 and 3

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Q 65. Consider the following statements about the effects of Nanoparticles on the environment:

1. It influences dust cloud formation and ozone depletion.
2. It shall lead to the reduction of water vapour in the stratosphere.

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

Test: 07 (ENV - I) (2022) | Test Code: A-22107 Contact us at

Q 65. (A)

EXPLANATION:

Nanoparticles in the environment influences dust cloud formation and ozone depletion. Effects of Nanoparticles on dust cloud formation and decrease in sunlight intensity were found to be important environmental changes with direct and indirect implication in various human health problems. So, statement 1 is correct.

Nanoparticles lead to the increase of water vapour in the stratosphere. Because Nanoparticles can hold water vapour in the stratosphere. So, statement 2 is not correct.

ADDITIONAL INFORMATION:

- A nanoparticle or ultrafine particle is usually defined as a particle of matter that is between 1 and 100 nano metres (nm) in diameter. The term is sometimes used for larger particles, up to 500 nm, or fibers and tubes that are less than 100 nm in only two directions. At the lowest range, metal particles smaller than 1 nm are usually called atom clusters instead.
- Being much smaller than the wavelengths of visible light (400-700 nm), nanoparticles cannot be seen with ordinary optical microscopes, requiring the use of electron microscopes. For the same reason, dispersions of nanoparticles in transparent media can be transparent, whereas suspensions of larger particles usually scatter some or all visible light incident on them. Nanoparticles also easily pass through common filters, such as common ceramic candles, so that separation from liquids requires special nanofiltration techniques.
- Nanoparticles occur widely in nature and are objects of study in many sciences such as chemistry, physics, geology and biology.
- Being at the transition between bulk materials and atomic or molecular structures, they often exhibit phenomena that are not observed at either scale.
- They are an important component of atmospheric pollution, and key ingredients in many industrialized products such as paints, plastics, metals, ceramics, and magnetic articles. The production of nanoparticles with specific properties is an important branch of nanotechnology.

{39} UPSC 2022/ Set-B / Q- 60  
> UPSC with Nikhil **Test-23 Q-94**

30. Consider the following :

1. Carbon monoxide
2. Nitrogen oxide ✓
3. Ozone
4. Sulphur dioxide ✓

Excess of which of the above in the environment is/are cause(s) of acid rain?

- (a) 1, 2 and 3 ✗  
(b) 2 and 4 only ✓  
(c) 4 only ✗  
(d) 1, 3 and 4 ✗

B)

Q 94. (B)

Tonga's massive underwater volcanic eruption could deliver long-lasting damage to coral reefs, erode coastlines and disrupt fisheries, say scientists studying satellite images and looking to the past to project the future of the remote region.

### Volcanic Eruption and its impacts

#### Acid Rain

- Since the initial eruption, the volcano has been releasing sulfur dioxide and nitrogen oxide — two gases that create acid rain when they interact with water and oxygen in the atmosphere.
- Acid rain causes widespread crop damage.
- The Sulphuric acid-rich aerosol particles induce cooling by reflecting the incoming sunlight into space.

Q 94. Consider the following statements:

1. Volcanic eruption releases sulfur dioxide and carbon monoxide, the two gases that create acid rain when they interact with water and oxygen.
2. The Sulphuric acid-rich aerosol particles induce cooling by reflecting the incoming sunlight into space.

Which of the above statement(s) is/are correct?

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

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{40} UPSC 2022/ Set-B / Q- 64  
> UPSC with Nikhil **Test-12 Q-58**

64. Consider the following statements :

1. Gujarat has the largest solar park in India.
2. Kerala has a fully solar powered international Airport.
3. Goa has the largest floating solar photovoltaic project in India.

Which of the statements given above is/are correct ?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Q 58. Consider the following pairs:

1. India's single largest solar park – Ladakh
2. India's largest Floating Solar project – Rann of Kutch
3. India's first Green Hydrogen Mobility project – Visakhapatnam

Which of the pair(s) given above is/are correctly matched?

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

Q 58. (D)

- ☐ NTPC Renewable Energy Ltd (NTPC-REL), a 100% subsidiary of NTPC, signed a MoU recently with Union Territory of Ladakh to set up the country's first green Hydrogen Mobility based project in the region.
- ☐ Leh is soon to become India's first city to implement a green hydrogen based mobility project with zero emission.
- ☐ NTPC REL has also received the go-ahead from Ministry of New and Renewable Energy (MNRE) to set up 4750 MW renewable energy park at Rann of Kutch in Khavada, Gujarat.
- ☐ This will be India's largest solar park to be built by the largest power producer of the country.
- ☐ NTPC has recently revised its target of achieving 60GW renewables capacity by 2032, almost doubling the earlier target.
- ☐ Recently, NTPC has commissioned India's largest floating solar project of 10MW at Vishakhapatnam.

1. India's single largest solar park – Rann of Kutch
2. India's largest Floating Solar project – Visakhapatnam
3. India's first Green Hydrogen Mobility project – Ladakh

{41} UPSC 2022/ Set-B / Q- 65  
> UPSC with Nikhil Test-14 Q-46

65. With reference to the United Nations Convention on the Law of Sea, consider the following statements :

1. A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.
2. Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
3. The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Q 46. (A)

**United Nations Convention on the Law of the Sea (UNCLOS)**

- It is also known as Law of the Sea and divides marine areas into five main zones namely- Internal waters, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ) and the High Seas.
- It is the only international convention which stipulates a framework for state jurisdiction in maritime spaces.
- It provides a different legal status to different maritime zones.

• It provides the backbone for offshore governance by coastal states and those navigating the oceans.

**Territorial Sea**

- It extends seaward up to 12 nautical miles (nm) from its baseline.
- Coastal states have sovereignty and jurisdiction over the territorial sea.
- These rights extend not only on the surface but also to seabed, subsoil and even airspace.
- The coastal state's rights are limited by the innocent passage through the territorial sea.

**Contiguous Zone**

- It extends seaward up to 24 nm from its baselines.
- It is an intermediary zone between the territorial sea and the high seas.
- Coastal state has the right to both prevent and punish infringement of fiscal, immigration, sanitary and customs laws within its territory and territorial sea.
- The contiguous zone only gives jurisdiction to a state on the ocean's surface and floor.
- It does not provide air and space rights.

**Exclusive Economic Zone (EEZ)**

- The Coastal state may claim an EEZ beyond and adjacent to its territorial sea that extends seaward up to 200nm from its baseline.

Q 46. With respect to UN Convention on the Law of the Sea (UNCLOS), consider the following statements:

1. It is the only International convention which stipulated a framework for state jurisdiction in maritime spaces.
  2. The legal status for all the maritime zones is one and the same.
  3. Within an Exclusive Economic Zone (EEZ), states have sovereign rights for the purpose of exploring and conserving only.
- Which of the above statement(s) is/are incorrect?

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



{42} UPSC 2022/ Set-B / Q- 66  
> UPSC with Nikhil **Test-39 Q-31**

Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news ?

- (a) It is generally believed that they are artificial islands made by a country around South China Sea.
- (b) China and Japan engage in maritime disputes over these islands in East China Sea.
- (c) A permanent American military base has been set up there to help Taiwan to increase its defence capabilities.
- (d) Though International Court of Justice declared them as no man's land, some South-East Asian countries claim them.

**Q 31.** Senkaku-Diaoyu dispute is sometimes seen in the news. It is between which of the following pair of countries?

- (A) North Korea – South Korea
- (B) China – Russia
- (C) Japan – China
- (D) South Korea – Japan

**Q 31. (C)**

**Explanation:**

Option (c) is correct

**Supplementary notes:**

**Senkaku-Diaoyu dispute**

Japan's Ishigaki city Assembly passed a bill to rename an administrative area covering a group of islands in the East China Sea, immediately triggering backlash from China and Taiwan, both of which also claim the uninhabited islets as their own.

The disputed islands are known as the Senkaku in Japan and the Diaoyu in China.

Ties between China and Japan have been strained by a territorial row over a group of islands, known as the Senkaku islands in Japan and the Diaoyu islands in China.

There are total eight uninhabited islands and rocks in the East China Sea.

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{43} UPSC 2022/ Set-B / Q- 68  
> UPSC with Nikhil **Test-38 Q-86**

Consider the following pairs :

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Region often mentioned in the news	Country
1. Anatolia	— Turkey
2. Amhara	— Ethiopia
3. Cabo Delgado	— Spain
4. Catalonia	— Italy

How many pairs given above are correctly matched ?

- (a) Only one pair
- (b) Only two pairs
- (c) Only three pairs
- (d) All four pairs

**Q 86.** With which of the following countries the Tigray region in Ethiopia does *not* share a land boundary?

- 1. Eritrea
- 2. Somalia
- 3. Djibouti
- 4. Sudan

Select the correct answer using the code given below:

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

**Q 86. (B)**

**Explanation:**

**Option (b) is correct:** Tigray region is the northernmost region of Ethiopia. Tigray is bordered by Eritrea to the north, Sudan to the west, the **Amhara Region** to the south and the Afar Region to the east and south east.

**Supplementary notes:**

**Conflict in Ethiopia**

The Ethiopian Prime Minister Abiy Ahmed has vowed to continue the military operation in the Tigray region amid concerns it could descend into civil conflict.

Abiy has declared war on the country's Tigray region, which is ruled by the powerful Tigray People's Liberation Front (TPLF), in response to its attack on a federal military base in Tigray.

He also removed TPLF from senior government positions. His push to concentrate more power in the hands of the government alienated the TPLF further.

Abiy has formed a new political coalition, the Prosperity Party, all constituents of the Ethiopian People's Revolutionary Democratic Front (EPRDF), except the TPLF, joined the new platform.



{44} UPSC 2022/ Set-B / Q- 69  
> UPSC with Nikhil Test-08 Q-53

69. With reference to Indian laws about wildlife protection, consider the following statements :

1. Wild animals are the sole property of the government.
2. When a wild animal is declared protected, such animal is entitled for equal protection whether it is found in protected areas or outside.
3. Apprehension of a protected wild animal becoming a danger to human life is sufficient ground for its capture or killing.

Which of the statements given above is/are correct ?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Q 53. (A)

Explanation:

- **Statement 2 is incorrect:** Animals listed in schedule 5 are called "vermin" which can be hunted.

Supplementary notes:

Schedules of Wildlife Protection Act, 1972

- Wildlife Protection Act (WPA), 1972 consists of 6 schedule lists, which give varying degrees of protection.

Poaching, smuggling and illegal trade of animals listed Schedule 1 to schedule 4 are prohibited.

Schedule 1 and part II of Schedule 2

- **Animals listed in schedule 1 and parts II of schedule 2 have absolute protection** - offences under these are prescribed the highest penalties.

- Examples of animals listed in schedule 1 are lion tailed macaque, rhinoceros, great indian bustard, narcondam hornbill, nicobar megapode, black buck, etc.

- Examples of animals listed in schedule 2 are rhesus macaque, dhole, Bengal porcupine, king cobra, flying squirrel, himalayan brown bear, etc.

Schedule 3 and schedule 4

- Animals listed in schedule 3 and schedules 4 are also protected, but the penalties are lower compared to schedule 1 and part 2 of schedule 2.

- Examples of animals listed in schedule 3 are hyaena, hogdeer, nilgai, goral, sponges, barking deer, etc.

- Examples of animals listed in schedule 4 are mangooses, vultures, etc.

Schedule 5

- **Animals listed in schedule 5 are called "vermin" which can be hunted.**

- Mice, rat, common crow and flying fox (fruit eating bats) are the list of animals (only 4 nos) in schedule 5 [i.e. vermin].

Schedule 6

- Cultivation, Collection, extraction, trade, etc. of Plants and its derivatives listed in schedule 6 are prohibited.

- Red Vanda, blue Vanda, kuth, pitcher plant, bed domes cycad and ladies slipper orchid are the list of plants listed in schedule 6.

Q 53. Consider the following statements regarding Wildlife Protection Act, 1972:

1. Animals listed in schedule 1 and parts II of schedule 2 have absolute protection.

2. Animals listed in schedule 4 are called "vermin" which can be hunted.

Which of the above statements is/are correct?

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



{45} UPSC 2022/ Set-B / Q- 71

> UPSC with Nikhil Test-50 Q-42 | Test-28 Q-05

Consider the following statements :

1. Tight monetary policy of US Federal Reserve could lead to capital flight.
2. Capital flight may increase the interest cost of firms with existing External Commercial Borrowings (ECBs).
3. Devaluation of domestic currency decreases the currency risk associated with ECBs.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

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Q 5. Consider the following statements about "Revaluation" of a currency:

1. It decreases the exchange rate of the domestic currency.
2. It makes the foreign currency cheaper in terms of domestic currency.
3. It increases the exchange rate of the domestic currency.
4. It makes the foreign currency expensive in terms of domestic currency.

Select the correct answer using the code given below.

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

<b>Devaluation</b>	<p>Devaluation is the decision to reduce the value of a currency in a fixed exchange rate.</p> <p><b>Advantages of devaluation</b></p> <ol style="list-style-type: none"> <li>1. Exports become cheaper and more competitive to foreign buyers. Therefore, this provides a boost for domestic demand and could lead to job creation in the export sector.</li> <li>2. A higher level of exports should lead to an improvement in the current account deficit. This is important if the country has a large current account deficit due to a lack of competitiveness.</li> <li>3. Higher exports and aggregate demand (AD) can lead to higher rates of economic growth.</li> <li>4. Devaluation is a less damaging way to restore competitiveness. Devaluation can restore competitiveness without reducing aggregate demand.</li> </ol> <p><b>Disadvantages of devaluation</b></p> <ol style="list-style-type: none"> <li>1. <b>Inflation</b>-Devaluation is likely to cause inflation</li> <li>2. Reduces the purchasing power of citizens abroad.</li> <li>3. Reduced real wages. In a period of low wage growth, a devaluation which causes rising import prices will make many consumers feel worse off. This was an issue in the UK during the period 2007-2018.</li> <li>4. A large and rapid devaluation may scare off international investors. It makes investors less willing to hold government debt because the devaluation is effectively reducing the real value of their holdings. In some cases, <b>rapid devaluation can trigger capital flight.</b></li> <li>5. If consumers have debts, e.g. mortgages in foreign currency – after devaluation, they will see a sharp rise in the cost of their debt repayments.</li> </ol>
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**DEVALUATION AND REVALUATION**

Currency devaluation and revaluation refer to opposite changes to a country's official currency in comparison to other currencies. Devaluation is the deliberate lowering of the exchange rate while revaluation is the deliberate rise of the exchange rate. In a fixed exchange rate system, both devaluation and revaluation can be conducted by policymakers, usually motivated by market pressures.

**Currency Devaluation**

Devaluation of a currency is a deliberate lowering of an official exchange rate of a country and setting a new fixed rate with respect to a reference of foreign currency such as the USD. It should not be confused with depreciation which is the decrease in the currency value as compared to other major currency benchmarks due to market forces. The process of devaluation tends to render the foreign currency more expensive than the local currency.



{46} UPSC 2022/ Set-B / Q- 73  
> UPSC with Nikhil **Test-24 Q-73**

Consider the following statements :

1. In India, credit rating agencies are regulated by Reserve Bank of India.
2. The rating agency popularly known as ICRA is a public limited company.
3. Brickwork Ratings is an Indian credit rating agency.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Q 99.** Consider the following statements regarding credit rating agencies:

1. They rate debtors on the basis of their ability to pay back their interests and loan amount on time and the probability of them defaulting.

2. In India, credit rating agencies are regulated by the Reserve Bank of India under the Reserve Bank of India Act.

Which of the above statement(s) is/are correct?

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

Test: 24 (CA – XV) (2022) | Test Code: A-22124 Contact

**Q 99. (A)**

Finance Secretary T.V. Somanathan on Tuesday accused ratings agencies of “double standards” when assessing emerging markets and developing economies.

### Credit Rating Agencies

A credit rating is an assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt or financial obligation.

It can be assigned to any entity that seeks to borrow money — an individual, corporation, state or provincial authority, or sovereign government.

A credit rating agency (CRA) is a company that rates debtors on the basis of their ability to pay back their interests and loan amount on time and the probability of them defaulting.

Credit rating agencies in India came into existence in the second half of the 1980s.

In India, CRAs are regulated by SEBI (Credit Rating Agencies) Regulations, 1999 of the Securities and Exchange Board of India Act, 1992.

There are six credit rating agencies registered under SEBI namely, CRISIL, ICRA, CARE, SMERA, Fitch India, and Brickwork Ratings.

{47} UPSC 2022/ Set-B / Q- 74  
> UPSC with Nikhil Test-29 Q-29

74. With reference to the 'Banks Board Bureau (BBB)', which of the following statements are correct ?

1. The Governor of RBI is the Chairman of BBB ✗
2. BBB recommends for the selection of heads for Public Sector Banks.
3. BBB helps the Public Sector Banks in developing strategies and capital raising plans.

Select the correct answer using the code given below :

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only ✗
- (d) 1, 2 and 3

- It was announced by Union Government in August 2015 as part of seven point Indradhanush Mission to revamp PSBs and started functioning in April 2016.
- It had replaced Appointments Board of Government.
- It is housed in Reserve Bank of India's central office in Mumbai, Maharashtra.
- BBB is considered as the first step towards Bank Investment Company as recommended by P J Nayak committee.

The first BBB was set up in February 2016 under chairmanship of former CAG Vinod Rai for two-year term that ended in March 2018.

Functions of the Banks Board Bureau

1. To be responsible for the selection and appointment of Board of Directors in PSBs and FIs (Whole-time Directors and Non-Executive Chairman);
2. To advise the Government on matters relating to appointments, confirmation or extension of tenure and termination of services of the Board of Directors of the above mentioned levels; 3. To advise the Government on the desired structure at the Board level, and, for senior management personnel, for each PSB and FT;
4. To help banks to develop a robust leadership succession plan for critical positions that would arise in future through appropriate HR processes including performance management systems.
9. To build a data bank containing data relating to the performance of PSBs/FIs and its officers; (Statement 2)
6. To advise the Government on the formulation and enforcement of a code of conduct and ethics for managerial personal in PSBs/FIs (Statement 3)
7. To advise the Government on evolving suitable training and development programmes for management personnel in PSBs/FIs; and
8. To help banks in terms of developing business strategies and capital raising plan etc. (Statement 1)

Q 29. Which of the following is/are the function(s) of the Banks Boards Bureau?

1. To help banks in developing business strategies and capital raising plan.
2. To build a data bank containing data relating to the performance of Public Sector Banks (PSBs).
3. To advise the Government on the formulation and enforcement of a code of conduct and ethics for managerial personnel in PSBs.

Select the correct answer using the code given below.

- (a) 3 only
- (b) 1 and 2 only
- (c) 2 and 3 only



{48} UPSC 2022/ Set-B / Q- 75  
> UPSC with Nikhil **Test-18 Q-91**

75. With reference to **Convertible Bonds**, consider the following statements :

1. As there is an option to exchange the bond for equity, Convertible Bonds pay a lower rate of interest.
2. The option to convert to equity affords the bondholder a degree of indexation to rising consumer prices.

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

**Q 91. (C)**

- Debentures are long-term financial instruments which acknowledge a debt obligation towards the issuer.
- Non-convertible debentures are debt financial instruments to raise long-term funds by companies through a public issue.
- Some debentures have a feature of convertibility into shares after a certain point of time at the discretion of the owner.
- The debentures which can't be converted into shares or equities are called non-convertible debentures (or NCDs).
- They have a fixed tenure and offer higher interest rate at regular time.
- Secured NCDs are backed by the company's assets. It means if a company fails to pay, the investors can claim payment through liquidation of assets.
- Unsecured NCDs are not backed by the company's assets and are riskier than secured NCDs.
- Fund mobilisation through NCDs had declined in the last two years for several reasons including the impact of Covid-19.
- The major players in the NCD market are housing finance companies, gold loan companies and non-banking financial companies (NBFCs).
- Retail investors, banks, mutual funds and insurance companies invest in NCDs.

**Q 91.** Consider the following statements about Non-Convertible Debentures (NCD)

1. They are debt financial instruments that companies use to raise short to medium-term capital.
2. It cannot be converted into shares or equities.
3. They have a fixed tenure and investors receive regular interest at a certain rate.

Which of the statements given above is/are correct?

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

{49} UPSC 2022/ Set-B / Q- 76

> UPSC with Nikhil **Test-20 Q-93 | Test-38 Q-40**

Consider the following :

1. **Asian Infrastructure Investment Bank**
2. **Missile Technology Control Regime**
3. **Shanghai Cooperation Organisation**

India is a member of which of the above ?

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Q 93.** Consider the following statements about the Shanghai Cooperation Organization (SCO):

1. All Central Asian countries are part of this Organization.
2. India and Pakistan became the members of the SCO in 2020.
3. The Regional Anti-Terrorist Structure, a permanent body of the SCO, is located in Shanghai.

Which of the statements given above is/are correct?

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

#### 2.27 **Missile Technology Control Regime**

- It was established in 1987 by Japan.
- It aims to limit the spread of ballistic missiles and other unmanned delivery systems that could be used for chemical, biological, and nuclear attacks.
- It has 35 members, which include most of the world's key missile manufacturers, including India.
- It seeks to restrict the exports of missiles and related technologies of any type of weapon of mass destruction.

#### 2.4 **Asian Infrastructure Investment Bank**

- It is a multilateral financial institution which brings countries together to address the daunting infrastructure needs across Asia.
- HQ - Beijing, China.
- The membership is open to members of the International Bank for Reconstruction and Development or the Asian Development Bank.
- It has authorized capital of US 100 billion dollars and subscribed capital of USD 50 billion.
- China is the largest shareholder in AIIB with a 26.06% voting power, followed by India with 7.62% and Russia with 5.92% voting power.
- US & Japan are not its members.
- It aims to stimulate growth and improve access to basic services by furthering interconnectivity and economic development in the region through advancements in infrastructure.
- It has invested in 13 member regions.
- It offers sovereign and non-sovereign finance for projects in various sectors with an interest rate of London Interbank Offered Rate (LIBOR) plus 1.15 % and a repayment period of 25 years with 5 years in grace period.



{50} UPSC 2022/ Set-B / Q- 77  
> UPSC with Nikhil Test-38 Q-79

Consider the following statements :

1. Vietnam has been one of the fastest growing economies in the world in the recent years.
2. Vietnam is led by a multi-party political system.
3. Vietnam's economic growth is linked to its integration with global supply chains and focus on exports.
4. For a long time Vietnam's low labour costs and stable exchange rates have attracted global manufacturers.
5. Vietnam has the most productive e-service sector in the Indo-Pacific region. X

Which of the statements given above are correct ?

- (a) 2 and 4
- (b) 3 and 5 X
- (c) 1, 3 and 4
- (d) 1 and 2

Q 79. (D)

Explanation:

Option (d) is correct

Supplementary notes:

**Vietnam**

The Socialist Republic of Vietnam is a long stretched country along the eastern coast of the Indo-Chinese Peninsula.

It is bordered by China in the north and Laos and Cambodia in the west.

It shares its maritime borders with Indonesia, Malaysia, the Philippines, and Thailand.

Its capital city is Hanoi. Ho Chi Minh City is the largest city in Vietnam.

Vietnam was occupied by France in 1884. Though it declared its independence after World War II, the French continued to rule until 1954 after communist forces took control of North Vietnam.

Politically, it is a **one-party Communist state.**

President is the head of state and nominal commander of the armed forces.

The head of government Prime Minister is elected by the National Assembly at the request of the president.

Fansi Peak is the highest point in Vietnam.

{51} UPSC 2022/ Set-B / Q- 78

> UPSC with Nikhil **Test-28 Q-47 | Test-13 Q-82**

78. In India, which one of the following is responsible for maintaining price stability by controlling inflation ?

- (a) Department of Consumer Affairs
- (b) Expenditure Management Commission
- (c) Financial Stability and Development Council
- (d) Reserve Bank of India

Q 82. Consider the following statements with respect to Inflation:

1. It aims to measure the overall impact of price changes for a diversified set of products and services only.
2. Wholesale Price Index (WPI) is the indices used in measuring inflation by RBI.

Choose the correct option.

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

Q 47. (D)

EXPLANATION:

Monetary Policy committee (MPC) is represents from RBI and the central governments by external members. So, option (a) is not correct.

Governor of RBI chaired by the monetary policy committee. So, option (b) is not correct.

The committee comprises six members. The external members are nominated by the central government and the three official members of the RBI. So, option (c) is not correct.

To maintain 4% annual inflation with an upper tolerance of 6% and a lower tolerance of 2% is mandated. So, option (d) is correct.

ADDITIONAL INFORMATION:

It is a committee to constitute by the RBI under the Reserve Bank of India act 1934 to bring more transparency and accountability in fixing the monetary policy of India.

It is conducted four times in a year and published after every meeting with the opinions.

The RBI has a government -constituted Policy Committee (MPC) with framing monetary policy tools like the repo rate, bank rate, cash reserve ratio (CRR).

The RBI Governor will chair the committee, however will not enjoy the overrule the panel members, but will have a casting vote in case of tie.

MONETARY POLICY TOOLS:

To control inflation, the Reserve Bank of India needs to decrease the supply of money or increase cost of fund in order to keep the demand of goods and services in control.

QUANTITATIVE TOOLS:

Reserve Ratio - To keep aside a set percentage of cash reserves, and it is of two types,

Cash Reserve Ratio (CRR) – The bank can neither lend it to anyone nor can it earn any interest rate or profit on CRR.

Statutory Liquidity Ratio (SLR) – Banks are required to set aside this portion in liquid assets such as gold or RBI approved securities such as government securities. Banks are allowed to earn interest on these securities, however it is very low.

Open Market Operation (OMO) - These operations conducted by the Central Bank in the open market and sell the government securities.



{52} UPSC 2022/ Set-B / Q- 79  
> UPSC with Nikhil **Test-13 Q-61**

With reference to Non-Fungible Tokens (NFTs), consider the following statements :

1. They enable the digital representation of physical assets.
2. They are unique cryptographic tokens that exist on a blockchain.
3. They can be traded or exchanged at equivalency and therefore can be used as a medium of commercial transactions.

Which of the statements given above are correct ?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Q 61.** Consider the following statements with respect to **Non-Fungible Tokens**

1. It is a digital asset that represents real-world object and allows people to trade the ownership of digital entities.
2. Each non-fungible token is uniquely identifiable and are not interchangeable in nature.

Which of the statement(s) given above is/are correct?

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

**Q 61. (C)**

☑ Non-Fungible Tokens are creating a new idea of patronage and empowering everyone from musicians and artists to TikTok creators and meme makers.

**Non-Fungible Tokens**

- ☑ They are transaction records captured on the blockchain - the web version of a physical ledger.
- ☑ NFTs allow people to trade the ownership of digital entities such as memes, media, tweets, arts, articles in 'token' form.
- ☑ As NFTs are supported by **blockchain**, these transaction records are permanent, verified multiple times and cannot be erased or changed.
- ☑ It is **not interchangeable in nature**. It means that the NFT is not replaceable by another 'identical' item.
- ☑ In other words, each non-fungible token is uniquely identifiable. So, no two digital entities can have the same token.
- ☑ Rights - An NFT is a certificate of authenticity, or a digital autograph that can be attached to digital property.
- ☑ Buying an NFT doesn't convey copyright or usage rights unless there is an explicit licence mentioning it.
- ☑ Earning - NFTs don't offer any cash flow and are not real assets.
- ☑ The only way one can make money is by luring others into buying your NFT.
- ☑ To sell an NFT, a new NFT needs to be created by the seller.
- ☑ Creating an NFT will require spending real money which will go into the crypto economy.
- ☑ Importance - The Covid pandemic has further devastated the poorly-paid lives of innumerable artists, musicians and creators.
- ☑ The digital world offers a creative outlet, but in it, any creation can be easily duplicated.
- ☑ With NFTs, any creation can be tokenised to create a digital ownership certificate, helping creators get good price for their art.



{53} UPSC 2022/ Set-B / Q- 80  
> UPSC with Nikhil Test-40 Q-32

80. Consider the following pairs :

Reservoirs	States
1. Ghataprabha	— Telangana X
2. Gandhi Sagar	— Madhya Pradesh X
3. Indira Sagar	— Andhra Pradesh X
4. Maithon	— Chhattisgarh

How many pairs given above are **not** correctly matched?

- (a) Only one pair
- (b) Only two pairs
- ~~(c) Only three pairs~~
- (d) All four pairs

Q 32. Which of the following statements regarding Chambal River system are correct?

- 1. It originates from the Singar Chouri peak on the northern slopes of the Vindhyan escarpment in Malwa Plateau.
- 2. The famous Rawatbhata dam is built on Banas River, a left bank tributary of Chambal River.
- 3. Parbati-Kalisindh-Chambal link project will transfer surplus waters of Parbati, Newaj and Kalisindh rivers to Chambal River at Gandhisagar.

Select the correct answer using the code given below:

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

Q 32. (C)

Explanation:

Statement 2 is incorrect: Rana Pratap Sagar or Rawatbhata is one of the major river projects built across the Chambal River.

Supplementary notes:

Chambal River System

The Chambal River originates from the Singar Chouri peak on the northern slopes of the Vindhyan escarpment near Mhow-south-west of Indore in Malwa Plateau and flows towards the north in a gorge upto the city of Kota.

Below Kota, it turns to the north-east, and after passing Bundi, Sawai-Madhapur and Dholpur, it finally joins the Yamuna about 40 km to the west of Etawah.

The Banas River, rising from the Aravalli Range is its main left bank tributary.

Kali Sind, Shipra and Parbati originating from the Malwa Plateau are the right bank tributaries of Chambal.

The Chambal River is famous for its extensive ravines which it has carved all along in the Lower Chambal Valley.

The ravines of the Chambal Basin are attributed to a slight uplift during the recent geological times, and they merge into the Yamuna alluvial plain where the landscape is extensively etched out by other tributaries of the Yamuna to the east and west of Chambal.

Various multipurpose projects have been constructed across the river.

The main dams across the Chambal River are Gandhi Sagar, Rana Pratap Sagar (Rawatbhata) and Jawahar Sagar.

The proposed Parbati-Kalisindh-Chambal link is one of the big projects being planned in the Chambal basin.

Amongst the tributaries of Chambal River, Parbati, Newaj (a tributary of Kalisindh) and Kalisindh rivers have sizeable surpluses after meeting the existing and projected requirements for irrigation, domestic & industrial purposes within the basins upto 2050 AD.

It is, therefore, proposed to divert the surplus waters of Parbati, Newaj and Kalisindh rivers to Chambal River at Gandhisagar / Rana Pratap Sagar.



{54} UPSC 2022/ Set-B / Q- 81  
> UPSC with Nikhil **Test-40 Q-32**

In the Government of India Act 1919, the functions of Provincial Government were divided into "Reserved" and "Transferred" subjects. Which of the following were treated as "Reserved" subjects ?

1. Administration of Justice
2. Local Self-Government
3. Land Revenue
4. Police

Select the correct answer using the code given below :

- (a) 1, 2 and 3
- (b) 2, 3 and 4
- (c) 1, 3 and 4
- (d) 1, 2 and 4

**Q 42.** Which of the following are features of Government of India Act, 1919?

1. Ministers had to resign if a no-confidence motion was passed against them.
2. Women were given the right to vote.
3. Subjects were divided into 'reserved' and 'transferred' lists.

Select the correct code:

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

**Q 42. (D)**

The main features of the Government of India Act, 1919 were as follows:

- Dyarchy, i.e., rule of two—executive councilors and popular ministers was introduced.
- Subjects were divided into two lists: "reserved" which included subjects such as law and order, finance, land revenue, irrigation, etc., and "transferred" subjects such as education, health, local government, industry, agriculture, excise, etc. **Hence statement 3 is correct.**
- The ministers were to be responsible to the legislature and had to resign if a noconfidence motion was passed against them by the legislature, while the executive councilors were not to be responsible to the legislature. **Hence statement 1 is correct.**
  
- Provincial Legislative Councils were further expanded-70% of the members were to be elected.
- The system of communal and class electorates was further consolidated.
- Women were also given the right to vote. **Hence statement 2 is correct.**
  
- The Legislative Councils could initiate legislation but the governor's assent was required. The governor could veto bills and issue ordinances.
  
- The Legislative Councils could reject the budget but the governor could restore it, if necessary.
- The legislators could ask questions and supplementaries, pass adjournment motions and vote a part of the budget, but 75% of the budget was still not votable.



{55} UPSC 2022/ Set-B / Q- 83

> UPSC with Nikhil **Test-25 Q-41 | Test-34 Q-39**

Consider the following freedom fighters :

1. Barindra Kumar Ghosh
2. Jogesh Chandra Chatterjee
3. Rash Behari Bose

Who of the above was/were actively associated with the Ghadar Party ?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

**Q 41.** Consider the following statements regarding the Ghadar party:

1. It was hostile to the British rule in India.
2. It was headquartered in Mumbai.
3. USA and Japan contributed their monetary help to Ghadar party.

Which of the above statements is/are correct?

- (A) Only 1
- (B) 1 and 2 only
- (C) 1 and 3 only
- (D) All of the above

### THE GHADAR MOVEMENT

The first fillip to the revolutionary movement was provided by the visit to Vancouver, in early 1913, of Bhagwan Singh, a Sikh priest who had worked in Hong Kong and the Malay States. He openly preached the gospel of violent overthrow of British rule and urged the people to adopt *Bande Mataram* as a revolutionary salute. Bhagwan Singh was expelled from Canada after a stay of three months.

The centre of revolutionary activity soon shifted to the US, which provided a relatively free political atmosphere. The crucial role was played by Lala Har Dayal, a political exile from India. Har Dayal arrived in California in April 1911, taught briefly at Stanford University, and soon immersed himself in political activity. During the summer of 1912, he concentrated mainly on delivering lectures on the anarchist and syndicalist movements to various American groups of intellectuals, radicals and workers, and did not show much interest in the problems that were agitating the immigrant Indian community. But the bomb attack on Lord Hardinge, the Viceroy of India, in Delhi on 23 December, 1912, excited his imagination and roused the dormant Indian revolutionary in him. His faith in the possibility of a revolutionary overthrow of the British regime in India was renewed, and he issued a Yugantar Circular praising the attack on the Viceroy. Meanwhile, the Indians on the West Coast of the US had been in search of a leader and had even thought of inviting Ajit Singh, who had become famous in the agitation in Punjab in 1907. But Har Dayal was already there and, after December 1912, showed himself willing to play an active political role. Soon the Hindi Association was set up in Portland in May 1913.

At the very first meeting of the Association, held in the house of Kanshi Ram, and attended among others by Bhai Parmanand, Sohan Singh Bhakna, and Harnam Singh 'Tundilat,' Har Dayal set forth his plan of action: 'Do not fight the Americans, but use the freedom that is available in the US to fight the British; you will never be treated as equals by the Americans until you are free in your own land, the root cause of Indian poverty and degradation is British rule and it must be overthrown, not by petitions but by aimed revolt; carry this message to the masses and to the soldiers in the Indian Army; go to India in large numbers and enlist their support.' Har Dayal's ideas found immediate acceptance. A Working Committee was set up and the decision was taken to start a weekly paper, *The Ghadar*, for free circulation, and to set up a headquarters called Yugantar Ashram in San Francisco. A series of meetings held in different towns and centres and finally a representatives' meeting in Astoria confirmed and approved the decisions of the first meeting at Portland. The Ghadar Movement had begun.

The Ghadar militants immediately began an extensive propaganda Campaign: they toured extensively. vis-



{56} UPSC 2022/ Set-B / Q- 84  
> UPSC with Nikhil Test-25 Q-06

With reference to the proposals of Cripps Mission, consider the following statements :

1. The Constituent Assembly would have members nominated by the Provincial Assemblies as well as the Princely States.
2. Any Province, which is not prepared to accept the new Constitution would have the right to sign a separate agreement with Britain regarding its future status.

Which of the statements given above is/are correct ?

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~~

Q 6. (C)

As the World War II situation worsened, President Roosevelt of the USA and President Chiang Kai-Shek of China and also the Labour Party leaders of Britain put pressure on Churchill to **seek the active cooperation of Indians in the War**. To secure this cooperation, the British Government sent to India in March 1942 a mission headed by a Cabinet minister Stafford Cripps, a leftwing Labourite who had earlier actively supported the Indian national movement. **Hence, statement 1 is correct.** Even though Cripps announced that the aim of British policy in India was the earliest possible realization of self- government in India, the Draft Declaration he brought with him was disappointing. The Declaration promised India **Dominion Status** and a **constitutionmaking body**, after the war, whose members would be **elected by the provincial assemblies and nominated by the rulers in case of the princely states.** **Hence, statement 2 is also correct.**

## THE CRIPPS MISSION

As the war situation worsened, President Roosevelt of the USA and President Chiang Kai-Shek of China as also the Labour Party leaders of Britain put pressure on Churchill to seek the active cooperation of Indians in the War. To secure this cooperation the British Government sent to India in March 1942 a mission headed by a Cabinet minister Stafford Cripps, a leftwing Labourite who had earlier actively supported the Indian national movement.

Even though Cripps announced that the aim of British policy in India was 'the earliest possible realization of self- government in India,' the Draft Declaration he brought with him was disappointing. The Declaration promised India Dominion Status and a constitution-making body after the War whose members would be elected by the provincial assemblies and nominated by the rulers in case of the princely states. The Pakistan demand was accommodated by the provision that **any province which was not prepared to accept the new constitution would have the right to sign a separate agreement with Britain regarding its future status.** For the present the British would continue to exercise sole control over the defence of the country.

Amery, the Secretary of State, described the Declaration as in essence a conservative, reactionary and limited offer. Nehru, a friend of Cripps, was to write later: 'When I read those proposals for the first time I was profoundly depressed.' Negotiations between Cripps and the Congress leaders broke down. The Congress objected to the provision for Dominion Status rather than full independence. the representation

Q 6. Consider the following statements regarding Cripps Mission:

1. It was sent to seek active cooperation of Indians in World War II.
2. It promised India both Dominion status and constitution-making body after the war.

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



{57} UPSC 2022/ Set-B / Q- 85

> UPSC with Nikhil **Test-34 Q-81 | Test-44 Q-69**

With reference to Indian history, consider the following texts :

1. Nettipakarana
2. Parishishtaparvan
3. Avadanashataka
4. Trishashtilakshana Mahapurana

Which of the above are Jaina texts ?

- (a) 1, 2 and 3
- (b) 2 and 4 only
- (c) 1, 3 and 4
- (d) 2, 3 and 4

**Q 69.** Which of the following statements is incorrect regarding ancient India?

- (A) Avadana literature was related to Mahayana Buddhism.
- (B) Saundarananda was written in Pali by Ashvaghosha.
- (C) The oldest example of kavya style belongs to the 2nd century A.D. was found in Junagarh
- (D) Vatsyayana's Kamasutra shows the tableau of urban life

- The earliest specimen of Kavya style is found in the Junagadh inscription of Rudradaman in Kathiawar in about A.D. 150.
- Ashvaghosha enjoyed the patronage of the Kushans. He wrote the Buddhacharita
- He also composed the Saundarananda, which is a fine example of Sanskrit kavya
- The progress of Mahayana Buddhism led to the composition of numerous avadana;
- One objective was to preach the teachings of Mahayana Buddhism to the people.
- **The Sutta Pitaka (Sutra/Basket of Discourses):** This contains the Buddha's discourses on various doctrinal issues in dialogue form. These doctrines deal with morality and righteous dharma. These texts are also known as '*Buddhavacana*' or 'the word of the Buddha', as it refers to texts that are supposed to contain what the Buddha himself said. With the exception of few sutras, the authority of this text is accepted by all Buddhist schools.
- **The Vinaya Pitaka (Discipline Basket):** This contains rules for monks and nuns of the monastic order (Sangha).
- **The Abhidhamma Pitaka (Basket of Higher Teachings):** This contains a thorough study and systemization of the teachings of the Sutta Pitaka through summaries, questions and answers, lists, etc. It concentrates on the philosophy and metaphysics. It also contains discussions on various topics like ethics, theory of knowledge and psychology.
- Some important non-canonical texts are:
  - **Milindapanho:** written in Pali, it consists of a dialogue on various philosophical issues between the Indo-Greek king Milinda/Menander and the monk Nagasena.
  - **Dipavamsa** and the **Mahavamsa:** written in Pali, both contain historical cum mythical account of the Buddha's life, Buddhist councils, Ashoka, and arrival of Buddhism to Sri Lanka
  - **Nettipakarana:** The Book of Guidance, which gives a connected account of the Buddha's teachings



{58} UPSC 2022/ Set-B / Q- 87

> UPSC with Nikhil **Test-27 Q-57 | Test-27 Q-58**

With reference to Indian history, consider the following statements :

1. The first Mongol invasion of India happened during the reign of Jalal-ud-din Khalji.
2. During the reign of Ala-ud-din Khalji, one Mongol assault marched up to Delhi and besieged the city.
3. Muhammad-bin-Tughlaq temporarily lost portions of north-west of his kingdom to Mongols.

Which of the statements given above is/are correct ?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

**Q 57.** Which of the following statements is/are correct regarding Delhi Sultanate?

1. Khaljis were non-Turks who had come to India in the time of the Ghurid invasion
2. The Khaljis excluded the Turks from high offices, and the rise of the Khaljis to power ended the Turkish monopoly of high offices
3. Jalaluddin Khalji was the first ruler of Delhi Sultanate who said, as the large majority of the people in India were Hindus, the state in India could not be a truly Islamic state.

Select the correct answer using the codes given below:

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

## THE KHURASAN AND KARACHIL EXPEDITIONS

Although the Khurasan and Karachil expeditions, and the recruitment of a large army by Muhammad bin Tughlaq, are mentioned by Barani separately, we may take them together as they were interconnected.

The Khurasan expedition was closely connected to events in Central and West Asia, and with Muhammad bin Tughlaq's desire to make Sindh and the Punjab safe at all times from the danger of recurrent Mongol invasions. After the death of Chingez Khan, one branch of his descendants, the Chaghtai branch, had dominated Turkistan and Transoxiana, while another branch, led by Halaku, had captured Iran, Iraq etc. Ghur, Ghazni, Afghanistan etc. which provided access to India was a bone of contention between the two.

## AGRARIAN AND MARKET REFORMS OF ALAUDDIN

Alauddin Khalji's agrarian and market reforms should be seen both in the context of the efforts at the internal restructuring of the sultanate, as also the need to create a large army to meet the threat of recurrent Mongol invasions.

### **Agrarian Reforms**

The essence of Alauddin Khalji's agrarian reforms was to bring the villages in closer association with the government in the area extending from Dipalpur and Lahore to Kara near modern Allahabad. In this region, the villages were to be brought under khalisa, i.e. not assigned to any of the nobles as iqta. Lands assigned in charitable grants were also confiscated and brought under khalisa. Further, the land revenue (kharaj) in this area was fixed at half of the produce, and assessed on the basis of measurement (paimaish). Barani, who is our main source of information, does not tell us about the method and mode of the measurement of the fields. On the basis of the measurements of the area under cultivation, and a standard of expected production per bisiwa (1/20 of the bigha), the share of the state was determined.



{59} UPSC 2022/ Set-B / Q- 89

> UPSC with Nikhil **Test-24 Q-93 | Test-44 Q-02**

89. With reference to Indian history, consider the following statements :

1. The Dutch established their factories/warehouses on the east coast on lands granted to them by Gajapati rulers.
2. Alfonso de Albuquerque captured Goa from the Bijapur Sultanate.
3. The English East India Company established a factory at Madras on a plot of land leased from a representative of the Vijayanagara empire.

Which of the statements given above are correct ?

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

Q 2. With reference to European settlements in India consider the following statements:

1. The Dutch established their first factory at Masulipatnam in 1605.
2. The English East India Company established its first factory in South India at Madras.
3. The French set up their first factory at Pondicherry.

Which of the above statements is/are correct?

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

#### • Dutch Settlements

- After their arrival in India, the Dutch founded their first factory in Masulipatnam (in Andhra) in 1605.
- They captured Nagapatam near Madras (Chennai) from the Portuguese and made it their main stronghold in South India.
- The Dutch established factories on the Coromandel Coast, in Gujarat, Uttar Pradesh, Bengal, and Bihar. In 1609, they opened a factory in Pulicat, north of Madras. Their other principal factories in India were at Surat (1616), Bimlipatam (1641), Karaikal (1645), Chinsura (1653), Baranagar, Kasimbazar (near Murshidabad), Balasore, Patna, Nagapatam (1658) and Cochin (1663).

#### • English Settlements

- In 1612 that Captain Thomas Best defeated the Portuguese in the sea of Surat; an impressed Jahangir granted permission to the English in early 1613 to establish a factory at Surat.
- The Company established its first factory in Masulipatnam in 1616.
- The Company established its first factory in east India in Hariharpur, Balasore (Odisha) in 1633.
- In 1639, the Company got the lease of Madras from a local king which later became the Fort St. George and replaced Masulipatnam as the headquarters of the English settlements in south India.

#### Portuguese and Goa

- ☐ The first Portuguese to land in India was Vasco De Gama in 1498.
- ☐ The Portuguese Empire established the first European trading centre at Quilon (Kollam) in 1502.
- ☐ This marked the commencement of colonial era in India.
- ☐ When Francisco de Almeida arrived to serve as the first Portuguese viceroy of the East (1505-1509), already there was a regional war on the Malabar coast.
- ☐ The admiral Alfonso de Albuquerque became second viceroy (1509-1515).
- ☐ Goa became the first Portuguese colony in entire Asia in 1510, when Admiral Alfonso de Albuquerque defeated the forces of the sultan of Bijapur, Yusuf Adil Shah.



{60} UPSC 2022/ Set-B / Q- 90

> UPSC with Nikhil Test-26 Q-27 | Test-44 Q-61

90. According to Kautilya's Arthashastra, which of the following are correct?

1. A person could be a slave as a result of a judicial punishment.
2. If a female slave bore her master a son, she was legally free.
3. If a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son. X

Which of the statements given above are correct?

- (a) 1 and 2 only  
(b) 2 and 3 only X  
(c) 1 and 3 only X  
(d) 1, 2 and 3 X

B)

### MAURYAN IMPERIAL ORGANISATION

The Mauryas organized a very elaborate system of administration. We know about this from the account of Megasthenes and the Arthashastra of Kautilya. Megasthenes was a Greek ambassador sent by Seleucus to the court of Chandragupta Maurya. He lived in the Maurya capital of Pataliputra and wrote an account not only of the administration of the city of Pataliputra but also of the Maurya Empire as a whole. Megasthenes's account does not survive in full, but quotations from it occur in the works of several subsequent Greek writers. These fragments have been collected and published in the form of a book entitled Indika, which throws valuable light on the administration, society, and economy of Maurya times.

Megasthenes's account can be supplemented by the Arthashastra of Kautilya. Although the Arthashastra was finally compiled a few centuries after Maurya rule, some of its books contain material that provides authentic information about the Maurya administration and economy. These two sources enable us to draw a picture of the administrative system of Chandragupta Maurya. Chandragupta Maurya was evidently an autocrat who concentrated all power in his hands. If we are to believe a statement in the Arthashastra, the king had set a high ideal. He stated that in the happiness of his subjects lay his happiness and in their troubles lay his troubles. We do not however know how far the king acted up to these ideals. According to Megasthenes, the king was assisted by a council whose members were noted for wisdom. There is nothing to show that their advice was binding on him, though the high officers were chosen from among the councillors.

The new techniques and the use of force enabled some people to own large stretches of land which needed a substantial number of slaves and hired labourers to till it. In Vedic times, people cultivated their fields with the assistance of family members only; there is no word for wage-earner in Vedic literature. However, slaves and wage-earners engaged in cultivation became a regular feature in the age of the Buddha. The Arthashastra of Kautilya shows that during the Maurya period they worked on large state farms. However, by and large, slaves in ancient India were meant to undertake domestic work. Generally the small peasant, occasionally aided by slaves and hired labourers, played the dominant role in production.

With the new techniques, peasants, artisans, hired labourers, and agricultural slaves produced much more than they needed for subsistence. A substantial part of this produce was collected from them by princes and



{61} UPSC 2022/ Set-B / Q- 93

> UPSC with Nikhil **Test-02 Q-71 | Test-31 Q-68**

If a particular area is brought under the Fifth Schedule of the Constitution of India, which one of the following statements best reflects the consequence of it ?

- (a) This would prevent the transfer of land of tribal people to non-tribal people.
- (b) This would create a local self-governing body in that area.
- (c) This would convert that area into a Union Territory.
- (d) The State having such areas would be declared a Special Category State.

**Q 71.** Consider the following statements:

1. Fifth Schedule of the Constitution deals with the provisions relating to the administration of tribal areas in the states of Assam, Meghalaya, Tripura and Mizoram.
2. Sixth Schedule of the Constitution deals with the provisions relating to the administration and control of scheduled areas and scheduled tribes.

Which of the statements given above is/are not correct?

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

**Q 68. (A)**

The Constitution of India makes special provisions for the administration of the tribal dominated areas in four states viz. **Assam, Meghalaya, Tripura and Mizoram**. As per article 244 and 6th Schedule, these areas are called "Tribal Areas", which are technically different from the Scheduled Areas under fifth schedule.

#### **SCHEDULED AND TRIBAL AREAS**

Article 244 in Part X of the Constitution envisages a special system of administration for certain areas designated as 'scheduled areas' and 'tribal areas'. The Fifth Schedule of the Constitution deals with the administration and control of scheduled areas and scheduled tribes in any state except the four states of Assam, Meghalaya, Tripura and Mizoram. The Sixth Schedule of the Constitution, on the other hand, deals with the administration of the tribal areas in the four northeastern states of Assam, Meghalaya, Tripura and Mizoram.

'The **scheduled areas are treated differently** from the other areas in the country because they are inhabited by 'aboriginals' who are socially and economically rather backward, and special efforts need to be made to improve their condition. Therefore, the whole of the normal administrative machinery operating in a state is not extended to the scheduled areas and the Central government has somewhat greater responsibility for these areas'. The various features of administration contained in the Fifth Schedule are as follows:

- **Declaration of Scheduled Areas:** The president is empowered to declare an area to be a scheduled area. He can also increase or decrease its area, such redesignation on an area in consultation with the governor of the state concerned.
- **Executive Power of State and Centre:** The executive power of a state extends to the scheduled areas therein. But the governor has a special responsibility regarding such areas. He has to submit a report to the president regarding the administration of such areas, annually or whenever so required by the president. The executive power of the Centre extends to giving directions to the states regarding the administration of such areas.
- **Tribes Advisory Council:** Each state having scheduled areas has to establish a tribes advisory council to advise on welfare and advancement of the scheduled tribes. It is to consist of 20 members, **threefourths of whom are to be the representatives of the scheduled tribes in the state legislative assembly**. A similar council can also be established in a state having scheduled tribes but not scheduled areas therein, if the president so directs.