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69TH PRELIMS EXPLANATION

SET - A

- 1. Which of the following technologies will be enabled by the 5G mobile communication networks?
 - 1. Internet of Things
 - 2. Edge Computing
 - 3. Network Slicing

Select the correct answer using codes given below.

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

Ans: D

- Exp: 5G is the fifth generation of wireless cellular technology, offering higher upload and download speeds, more consistent connections, and improved capacity than previous networks. It has the potential to transform the way we use the internet to access applications, social networks, and information. For example, technologies like self-driving cars, advanced gaming applications, and live streaming media that require very reliable, high-speed data connections are set to benefit greatly from 5G connectivity. The capabilities of 5G can support innovation and improve customer experiences for business. Here are some areas to look out for.
 - ❖ Internet of Things: The Internet of Things (IoT) refers to a network of physical devices, vehicles, appliances and other physical objects that are embedded with sensors, software and network connectivity that allows them to collect and share data. The commercial success of any IoT is tied to its performance, which is dependent on how quickly it can communicate with other IoT devices, smartphones and tablets, software

- in the form of its app or website, and more. With 5G, data-transfer speeds will increase significantly. 5G will be 10 times faster than current LTE (Long- term Evolution) networks. This increase in speed will allow IoT devices to communicate and share data faster than ever.
- ❖ Edge computing- Edge computing is the process of delivering data storage and analysis capabilities closer to your endpoints. With the ever-increasing quality of edge computing, using cases and data requirements, a high-speed network is necessary to satisfy the need for near real-time responsiveness. As such, 5G network infrastructure supports and enables the increasing complexity and specialization of edge computing.
- Network slicing: Network slicing is a method of creating multiple unique logical and virtualized networks over a common multi-domain infrastructure. Mobile network operators use 5G technology to deploy multiple independent virtual networks over the same infrastructure. You can customize each network slice for different services and business cases, such as streaming services or enterprise tasks. By forming a collection of 5G network functions for each specific use case or business model, you can support different requirements from all vertical industries. The service separation means users benefit from a more reliable experience and improved efficiency on their devices.

BCW BITS

• 5G is the fifth generation mobile network. It is the next generation cellular technology that will provide faster and more reliable communication with ultra-low latency.





With 5G, the peak network data speeds are expected to be in the range of 2-20 Gigabit per second (Gbps) as opposed to 4G link speeds averaging 6-7 Megabit per second (Mbps) in India.

2. Match List-I with List-II:

List- I	List-II
(Space Mission)	(Exploration)
a. Cassini-Huygens	1. Jupiter
b. Juno	2. Saturn and its rings
c. Artemis	3. Venus

d. VERITAS

4. Human Space FlightMoon to Mars

Select the correct answer using the codes given below.

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

Ans: A Exp:

- The Cassini-Huygens project was a cooperative project between NASA, ESA (European Space Agency) and the ASI (Italian Space Agency). NASA supplied the main spacecraft, the orbiter Cassini, and ESA supplied the lander, Huygens.
 - 1. It was sent to study **Saturn** and its complex system of rings and moons. Launched on 15 October 1997, the Huygens probe descended into the **atmosphere of Titan, Saturn's largest moon,** on 14 January 2005.
 - 2. Cassini orbited Saturn from 2004 to 2017 and the mission ended on Sept. 15, 2017.
 - 3. The Huygens was named after the Dutch physicist Christiaan Huygens (1629-1695). Cassini was named after Italian astronomer Giovanni Cassini (1625-1712).

- Juno is a space probe by NASA that is currently orbiting the planet Jupiter. Launched on 5th August 2011, it entered Jupiter's orbit on 4 July 2016 to probe beneath Jupiter's dense clouds and study its origins, structure, atmosphere and magnetosphere.
 - 1. The mission is named after **goddess Juno**. In Roman mythology, it's said that the mighty god Jupiter would cloak himself in clouds to hide his mischievous deeds. Only his wife, the goddess Juno, could peer through the shroud and see his true self.
- NASA's Artemis missions aim to land the first woman and first person of color on the Moon, explore the lunar surface, and lay the groundwork for sending astronauts to Mars. This 'Moon to Mars' plan involves building a new space station in lunar orbit and, eventually, establishing a habitable Moon base.
 - 1. The name of the mission is derived from "Artemis", the mythological Greek goddess of the Moon and twin sister of Apollo. The name is intended to link this programme with the Apollo missions that first landed humans on the Moon over 50 years ago.
 - 2. The crewed spacecraft, meanwhile, is called Orion. Orion is the name of one of the most recognizable constellations in the sky. In Classical mythology, Orion is the hunting companion of Artemis.
- VERITAS is an acronym for "Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy." The word Veritas means "truth" in Latin, and the mission will reveal the truth of how Venus' and Earth's paths diverged.
 - 1. It aims to map the surface of the **planet**Venus in high resolution and also to help scientists understand how Venus became an inhospitable inferno, while Earth evolved to become home to an abundance of life.
 - 2. It is an upcoming mission from NASA's Jet Propulsion Laboratory (LPL) and is

currently planned to launch in December 2027.

3. Match List-II with List-II:

List-I	List-II	
(Cloth)	(Origin)	
a. Linen	1. Coconut plant	
b. Coir	2. Flax plant	
c. Mohair	3. Feathers of duck and	
	geese	
d. Down	4. Angora goat	

Select the correct answer using the codes given below.

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

Ans: C Exp:

- Linen is a textile made from the fibers of the flax plant. It is very strong and absorbent and dries faster than cotton. Because of these properties, linen is comfortable to wear in hot weather and is valued for use in garments.
- Coir is known as the oldest type of fabric that has been used worldwide throughout history. It is usually extracted from the coconut's husk, and is usually used in products such as floor mats, doormats, brushes, and mattresses.
- Mohair wool is a type of textile derived from the hair of the Angora goat. It is known for its lustrous sheen, durability, and softness. Therefore it is considered as a luxury fibre like cashmere.
- ❖ Down comes from the fluffiest layer of feathers on duck and geese and is the most effective natural insulator in the textiles industry. These are used to fill pillows, sleeping bags, and puffer jackets.

4. Consider the following statements:

- Taeniasis is an intestinal infection caused by three species of tapeworm—Taenia solium, Taenia saginata and Taenia asiatica.
- 2. When cysts develop in the brain, the condition is referred to as neurocysticercosis (NCC).

Which of the above statements is/are correct?

- (A) Only 1
- (B) Only 2
- (C) Both 1 and 2
- (D) None of the above

Ans: C

Exp: Taeniasis in humans is a parasitic intestinal infection caused by three tapeworm species-

- * Taenia saginata (beef tapeworm)
- Taenia solium (pork tapeworm)
- Taenia asiatica (Asian tapeworm).

Humans can become infected with these tapeworms by eating raw or undercooked beef (T. saginata) or pork (T. solium and T. asiatica). Only T. solium causes major health problems.

- T. solium taeniasis is acquired by humans through the ingestion of the parasite's larval cysts (cysticerci) in undercooked and infected pork.
- Ingested T. solium eggs develop to larvae (called cysticerci) in various organs of the human body. When they enter the central nervous system, they can cause neurological symptoms (neurocysticercosis), including epileptic seizures.

5. Which of the following are computer languages?

- 1. Cobra
- 2. Python
- 3. Squirrel
- 4. Java

Select the correct answer using the codes given below.

- (A) Only 1 and 2
- (B) Only 3 and 4
- (C) Only 1, 2 and 3
- (D) All of the above

Ans: D

Exp:

Cobra is a high-level, object oriented programming language used for general



programming purposes. Its main selling points are quick, expressive coding, fast execution, static and dynamic binding and language level support for quality. It was designed by **Charles Esterbrook.** Unlike other programming languages such as Objective-C, Boo, Python, Ruby, Smalltalk, C# Java, C++, which fulfill some of these functions, Cobra's unique benefit is that it combines all of them into a single language.

- Python is a high-level general purpose programming language. It was created by Guido van Rossum, and released in 1991. It is used to build websites and software, automate tasks, and analyze data.
- ❖ Squirrel is a high level imperative, objectoriented programming language, designed to be a light-weight scripting language that fits in the size, memory bandwidth, and realtime requirements of applications like video games.
- Java is a popular programming language, created in 1995. It is owned by Oracle and is being used for mobile applications.

6. What is the full form of GPT in ChatGPT, recently seen in the news?

- (A) Glutamine Pyruvic Trans-aminase
- (B) GUID Partition Table
- (C) Grooved Pegboard Test
- (D) Generative Pre-Trained Transformer

Ans: D

Exp:

- ChatGPT, which stands for Chat Generative Pre-trained Transformer, is an AI-powered (Artificial intelligence) language model developed by OpenAI (an AI and research company) capable of generating human-like text based on context and past conversations.
- It was launched on November 30, 2022.
- The language model can answer questions and assist a person with tasks, such as composing emails, essays, and code.
- It's currently open to use by the public for free.

- A paid subscription version called ChatGPT Plus was also launched recently.
- Sam Altman is the current Chief Executive Officer (CEO) of OpenAI.

7. Which of the following are not the tastes of the tongue?

- 1. Sweet
- 2. Bitter
- 3. Salty
- 4. Spicy
- 5. Umami
- 6. Sour
- 7. Pungent

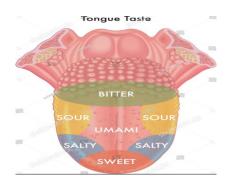
Select the correct answer using the codes given below.

- (A) 2, 5 and 7
- (B) 1, 3 and 4
- (C) 4 and 7
- (D) 3 and 6

Ans: C

Exp: Taste buds are tiny sensory organs that allow a person to experience taste. They're located inside the tiny bumps covering the tongue called papillae. Taste buds detect five basic tastes, including:

- Sweet: Sweet foods mostly contain some form of sugar (sucrose, glucose, fructose and lactose). They include foods like honey, fruit and ice cream.
- Salty: Salty foods contain table salt (sodium chloride) or mineral salts, like magnesium or potassium.
- Bitter: Bitter foods may contain ingredients like caffeine or compounds from plants, among others.
- Sour: Sour foods, like citrus fruits and vinegar, often contain some form of acid (acetic acid, citric acid, lactic acid).
- Umami: This taste is imparted by the chemical monosodium glutamate, or MSG. Unami is described as 'meaty' or 'savory', found typically in meat and seafood; mushrooms, especially truffles; anchovies; and cheeses, particularly parmesan. It was identified by Japanese chemist Kikunae Ikeda in 1908.



8. Which of the following pairs are correctly matched?

1. Anorexia: Sleep disorder

2. Insomnia: Eating disorder

3. Dyspnoea: Shortness of breath

4. Anosmia: Partial or full loss of smell

Select the correct answer using the codes given below.

(A) Only 1 and 2

(B) Only 2 and 3

(C) Only 3 and 4

(D) All of the above

Ans: C Exp:

- Anorexia nervosa, also known as just anorexia, is an eating disorder. People with anorexia eat so little that they have unhealthy weight loss and become dangerously thin. They may think they are overweight or fat even when they are underweight or thin. This problem affects women more than men. It often starts during the teenage.
- ❖ Insomnia is a common sleep disorder. With insomnia, you may have trouble falling asleep, staying asleep, or getting good quality sleep. Insomnia can affect memory and concentration. Chronic insomnia raises risk of high blood pressure, coronary heart disease, diabetes, and cancer.
- ❖ Dyspnoea, which is also referred to as shortness of breath, is a feeling that one cannot breathe enough air into lungs. During this, people experience tightness in their chest. This shortness of breath can often be a symptom of health conditions relating to heart or lung disease. However, one can also experience temporary dyspnoea after an intense workout or other physical activity.

Anosmia is the partial or complete loss of the sense of smell. This loss may be temporary or permanent. Common conditions that irritate the nose's lining, such as allergies or a cold, can lead to temporary anosmia. More serious conditions that affect the brain or nerves, such as brain tumors or head trauma, can cause permanent loss of smell. Old age sometimes causes anosmia.

9. In the universe, what are pulsars?

- (A) A group of stars
- (B) Rotating neutron stars
- (C) Explosion of a star
- (D) Radio waves emitted by a star

Ans: B

Exp:

- Pulsars are rapidly rotating neutron stars that blast out pulses of radiation at regular intervals ranging from seconds to milliseconds.
 - 1. Jocelyn Bell discovered the first pulsar on August 6, 1967.
- Rotating Neutron stars have strong magnetic fields. They emit high-energy beams from its north and south magnetic poles. When these beams are pointed toward Earth and flash across us, as the neutron star rotates, we see pulses. So astronomers named these neutrons as pulsars.

Formation of a neutron star-

- 1. When a supermassive star begins to die, it forms a **red supergiant.**
- 2. After that, these stars explode and either evolve into white dwarfs, or become supernovae.
- 3. After the supernova explosion, if the remaining core of the star has a mass less than about three times the Sun's mass, then it forms into a neutron star (if the remnant is more massive, it will collapse into a black hole).
- 4. Neutron stars are so named because they are **composed primarily of neutrons**, as most of the protons and electrons in the core of the star are crushed together



- and collapses to form neutrons under the incredibly dense conditions.
- Most neutron stars are observed as pulsars. So, all pulsars are neutron stars, but not all neutron stars are necessarily pulsars.

Why in the news?

In June 2023, Pune based astronomers discovered two new Millisecond Pulsars (MSP) — rotating neutron stars — using an indigenously developed novel technique, which was applied during an ongoing sky survey conducted by the **Giant Metrewave Radio Telescope** (GMRT). Millisecond pulsars emit radiation every few milliseconds.

BCW BITS

The **Chandrashekhar limit** determines whether a star dies as a white dwarf, or would launch a supernova to create a black hole or neutron star.

He calculated that **stars with more than 1.44 times the mass of the Sun** (now known as the Chandrasekhar limit) would not become white dwarfs, but would be crushed by their own gravity into either a neutron star or a black hole.

10. In the context of lab-grown diamonds (LGDs), what is used as a diamond seed?

- (A) White sapphire
- (B) Moissanite
- (C) Graphite
- (D) Cubic zirconia (CZ)

Ans: C

Exp: .

- LGDs are diamonds that are produced using specific technology which mimics the geological processes that grow natural diamonds. They are produced in two main methods CVD (Chemical Vapor Deposition) & HPHT (High Pressure High Temperature).
 - 1. During CVD diamond creation, a minuscule slice of diamond is placed into a chamber where it is exposed to carbonrich gas and amped up to extremely high temperatures. Over a matter of just weeks, the carbon gas ionizes and the particles stick to the original diamond

- slice, before eventually crystallizing into a fully formed diamond.
- 2. During HPHT, pure carbon is pressed within a metal cube and exposed to immense heat and pressure through electric pulses. Eventually, the carbon breaks down and crystallizes into a diamond. Any metal traces within a HPHT diamond will be minuscule and usually not visible to the naked eye.
- Most experts agree that HPHT diamonds are better quality than CVD diamonds.
- Usually graphite is used as a diamond seed and when subjected to extreme conditions it turns into one of the most expensive carbon forms i.e diamond. Catalysts such as chromium, Iron or platinum may be used.
- India is the largest producer of lab grown diamonds through the CVD technology and contributes to nearly 25% of global LGD production.
- Materials like Moissanite, Cubic Zirconia (CZ), White Sapphire, YAG (Yttrium aluminium garnet) etc are diamond stimulants that simply attempt to look like a diamond but they lack the sparkle and durability of a diamond as are thus easily identifiable.

Why was this question asked?

This question was framed because the Finance Minister Nirmala Sitharaman had announced in her Budget speech 2023 the government's move to focus on lab grown diamonds.

11. What is the 'fibre' used to make bulletproof jackets?

(A) Nylon

(B) Terylene

(C) Tweed

(D) Kevlar

Ans: D

Exp: Kevlar is a polymer of p-phenylenediamine and Terephthalic acid. Kevlar is known as an aramid fiber. (Aramid fibers, short for aromatic polyamide, are a class of heat-resistant and strong synthetic fibers). It is woven into textile materials and is extremely strong and lightweight, with resistance toward corrosion and heat.

A polymer is a substance which has a molecular

kevlar in 1965.



structure built up of a large number of similar units, called monomer, bonded together to form a long chain. It is used in racing tyres, racing sails, gardening gloves, ropes and bulletproof vests etc.

Stephanie Kwolek, a chemist at the DuPont company in Wilmington, Delaware, invented

Properties

- Kevlar is inherently flame resistant protecting against thermal hazards up to 800° F.
- Due to the fully extended and perfectly aligned molecular chains it provides a strong protective barrier against slashes, cuts and punctures.
- The fibers are so tightly spun that it is **nearly** impossible to separate them. When a bullet or other high-velocity projectile hits Kevlar, the fibers essentially catch the projectile while absorbing and dissipating its energy.
- ❖ The chemical structure of Kevlar consists of several repeating inter-chain bonds. These chains are cross-linked with hydrogen bonds, providing a tensile strength 10X greater than steel on an equal weight basis. (Tensile strength is the maximum stress a material can handle before separating when the material is pulled).

BCW BITS

Nylon

- Nylon is a man-made fibre. In 1931, it was made without using any natural raw material (from plant or animal). It was prepared from coal, water and air. It was the first fully synthetic fibre.
- Nylon fibres are strong, elastic and light. It is lustrous and easy to wash. So, it became very popular for making clothes.
- It is used in making various articles such as socks, ropes, tents, toothbrushes, car seat belts, sleeping bags, curtains, etc.
- It is also used for making parachutes and ropes for rock climbing.
- **❖** A nylon thread is actually stronger than a steel wire.

12. What is/are the full form(s) of HMX?

- 1. High Melting Explosive
- 2. High-Density Monoatomic Xenon
- 3. Hedge Monetizing Xenocurrency
- 4. Her Majesty's Explosive

Select the correct answer using the codes given below.

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

Ans: C

Exp:

- HMX (Octogen) is an acronym for High Melting eXplosive.
- It is also known as octogen and cyclotetramethylene-tetranitramine, as well as by other names.
- ❖ It is a colorless solid that dissolves slightly in water. Only a small amount of HMX (Octogen) will evaporate into the air; however, it can occur in air attached to suspended particles or dust.
- The taste and smell of HMX (Octogen) are not known.
- HMX (Octogen) does not occur naturally in the environment. It is made from other chemicals known as hexamine, ammonium nitrate, nitric acid, and acetic acid.
- * HMX (Octogen) explodes violently at high temperatures. Because of this property, HMX (Octogen) is used in various kinds of explosives, rocket fuels, and burster chargers.

13. What is the name of Tesla's humanoid robot launched in 2022?

- (A) Sophia
- (B) Atlas
- (C) Pepper
- (D) Optimus

Ans: D

Exp: Optimus or Tesla bot is a humanoid robot launched by Tesla in 2022. It is a general-purpose bot designed to perform tasks that are unsafe, repetitive, or boring. It would be low cost and will be available to the public sometime between 2025 and 2027.

14. What is the 'Manhattan Project'?

- (A) A research and development Undertaking that produced the first nuclear weapons
- (B) One of the largest art auctions of the world
- (C) A real estate project in New York City
- (D) A famous theme park

Ans: A

Exp: The Manhattan Project was a top-secret program of the US government during the Second World War, that developed the world's first nuclear weapons. The project officially lasted from June 1942 to August 1947.

- Thousands of scientists, including theoretical physicist J. Robert Oppenheimer, took part in the Manhattan Project.
- The project successfully harnessed nuclear energy on July 16, 1945 after the successful detonation of the 'Gadget', the world's first atomic test device. 'Trinity Test' was set as the code name for this first ever detonation.
- President Roosevelt approved the creation of an atomic bomb in January 1942, and after his death on April 12, 1945, his successor Harry Truman moved forward with the project.
- The U.S. Army Corps of Engineers created the Manhattan Engineer District in June 1942 to hide the development of the atomic bomb during the war—hence that effort's name of the "Manhattan Project."

Why in the news?

A movie named **Oppenheimer**, directed by Christopher Nolan was released in July 2023. It is set during World War II, when Lt. Gen. Leslie Groves Jr. appointed physicist J. Robert Oppenheimer to work on the top-secret Manhattan Project.

- 15. The image formed by a concave mirror is real, inverted and of the same size as that of the object. The position of the object should be
 - (A) at the focus
 - (B) at the centre of curvature
 - (C) between the focus and centre of curvature
 - (D) beyond the centre of curvature

Ans: B

Exp: A concave mirror is a spherical mirror, whose reflecting surface is curved inwards, that is, faces towards the centre of the sphere.

- The reflecting surface of a spherical mirror forms a part of a sphere.
- This sphere has a centre. This point is called the centre of curvature of the spherical mirror. It is represented by the letter C. The centre of curvature is not a part of the mirror. It lies outside its reflecting surface.
- The radius of the sphere of which the reflecting surface of a spherical mirror forms a part, is called the radius of curvature of the mirror. It is represented by the letter R. You may note that the distance PC is equal to the radius of curvature.
- Imagine a straight line passing through the pole and the centre of curvature of a spherical mirror. This line is called the principal axis. Remember that the principal axis is normal to the mirror at its pole.

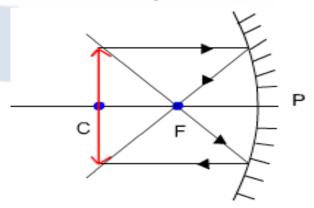


Image formation by a concave mirror for different positions of the object:

/		$\overline{}$
	a	,
	J	
	_	4

Position of the object	Position of the image	Size of the image	Nature of the image
At infinity	At the focus	Highly diminished	Real and inverted
Beyond C	Between F and C	Diminished	Real and inverted
At C	At C	Same size	Real and inverted
Between C and F	Beyond C	Enlarged	Real and inverted
At F	At infinity	Highly enlarged	Real and inverted
Between P and F	Behind the mirror	Enlarged	Virtual and erect

16. A photoelectric cell is a device which

- (A) converts light energy into electric energy
- (B) converts electrical energy into light energy
- (C) stores light energy
- (D) None of the above

Ans: A

Exp:

- A Photoelectric cell is an electronic device which converts light energy into electrical energy. It is also called an electric eye or photo tube. It works on the principle of photoelectric effect.
- It is used for sound reproduction in a motion picture, in burglar alarms etc.
- The photoelectric effect is the emission of electrons or other free carriers when light shines on a material. Electrons emitted in this way are called photo electrons.
- The photoelectric effect was first introduced by Wilhelm Ludwig Franz Hallwachs in the year 1887, and the experimental verification was done by Heinrich Rudolf Hertz.
- 17. The amount of solute present per unit volume or per unit mass of the solution/solvent is known as _____ in Chemistry.
 - (A) composition of solute
 - (B) concentration of solvent
 - (C) concentration of solute
 - (D) concentration of solution

Ans: D

Exp: A solute is defined as the substance that is dissolved in a solution. For solutions of fluids,

the solvent is present in greater amounts than the solute. **Concentration of solution** is a measurement of the amount of solute present per unit volume or per unit mass of the solvent.

- 1. Usually, a solute is a solid that is dissolved into a liquid.
- **2. Salt in water** is an example of solute. Salt is the solute that dissolves in water, the solvent, to form a saline solution.
- 3. Water vapor is considered a solute in air because nitrogen and oxygen are present in much larger concentration levels in the gas.

18. How do COVID vaccines stimulate an immune response?

- (A) By introducing live attenuated SARS-CoV-2 virus
- (B) By introducing a real SARS-CoV-2 virus
- (C) By introducing a harmless piece of SARS-CoV-2 virus
- (D) By introducing antibodies against SARS-CoV-2 virus

Ans: A

Exp: Vaccines work by imitating an infection—the presence of a disease-causing organism in the body—to engage the body's natural defenses. The active ingredient in all vaccines is an **antigen**, the name for any substance that causes the immune system to begin producing antibodies. In a vaccine, the antigen could be either

alive but weakened, such as in the measles or chickenpox vaccines

- dead or inert, such as in the pertussis (whooping cough) or tetanus vaccines
- ❖ live and attenuated pathogens such as SARS CoV2 virus. Live vaccines use a weakened (or attenuated) form of the germ that causes a disease. Because these vaccines are so similar to the natural infection that they help prevent, they create a strong and long-lasting immune response.

Role of immune cells: There are two types of immune-system cells in our body called **B-lymphocytes and T-lymphocytes,** or B-cells and T-cells.

- B-cells produce antibodies that fight off infection.
- T-cells recognize and kill cells infected with a virus or other foreign cells, which can stop the infection from spreading.
- When a vaccine introduces an antigen into the body, those B-cells and T-cells get to work.
- Vaccination, as well as natural infection, also help produce "memory" B- and T-cells. That means if you become ill in the future with the pathogen you're vaccinating against, your immune system is trained to protect you and prevent serious illness.

BCW BITS

According to the Union Minister Dr Jitendra Singh, India has developed four indigenous Vaccines through "Mission COVID Suraksha". The four indigenously developed vaccines by India are-

- ZyCoV-D- World's 1st and India's indigenously developed DNA Vaccine,
- CORBEVAXTM-India's first protein subunit vaccine,
- ❖ GEMCOVACTM-19 World's 1st and India's indigenously developed mRNA vaccine and
- iNCOVACC-World's 1st and India's indigenously developed intranasal COVID-19 Vaccine.
- 19. Which of the following liquids is a bad conductor of electricity?

- (A) Salted water
- (B) Orange juice
- (C) Lemon juice
- (D) None of the above

Ans: D

Exp: Electricity does not conduct through all liquids. Some liquids are strong conductors of electricity while others are poor conductors.

Water containing dissolved salts and minerals conducts electricity well, whereas vinegar, honey and pure water conducts electricity poorly.

- Any liquid containing impurities, similar to salts, conducts electricity well.
- Salt is a good conductor because when salts are broken down in the water, they separate into various electrically charged particles called ions. Common Salt, or Sodium Chloride (NaCl), separates into Na⁺ ions and Cl⁻ ions.
- If you place a battery with a negative pole and a positive pole into the water, the negative particles will be drawn to the positive pole and the positive ions will be drawn to the negative pole in this way making a closed circuit.
- Orange and Lemon juice contain various salts and acids and are therefore good conductors of electricity. 'D' is the only option for a bad conductor.

20. The DNA double helix structure was discovered by

- (A) James Watson and Francis Crick
- (B) Rosalind Franklin and Maurice Wilkins
- (C) Linus Pauling
- (D) Gregor Mendel

Ans: A

Exp: Double helix, as related to genomics, is a term used to describe the physical structure of DNA.

A DNA molecule is made up of two linked strands that wind around each other to resemble a twisted ladder in a helix-like shape.



- Each strand has a backbone made of alternating sugar (deoxyribose) and phosphate groups.
- Attached to each sugar is one of four bases: adenine (A), cytosine (C), guanine (G) or thymine (T).
- The two strands are connected by chemical bonds between the bases: adenine bonds with thymine and cytosine bonds with guanine.

James Watson, Francis Crick and Maurice Wilkins received the Nobel Prize in physiology or medicine, 1962 for their discovery of the molecular structure of DNA.

21. Two objects of different masses falling freely near the surface of the Moon would

- (A) have different accelerations
- (B) undergo a change in their inertia
- (C) have same velocity at any instant
- (D) experience forces of same magnitude

Ans: C

- Exp: The Question does not give the parameters for height and time. Assuming that both objects are dropped at the same time from the same reasonable height, they will have "The same velocity at any instant" as they fall freely near the surface of the moon.
 - There are certain factors that affect the speed of an object as it falls. These include, mass, weight, force, velocity, acceleration and air resistance.
 - ❖ When something falls, it falls because of gravity. Because that object feels a force, it accelerates, which means its velocity gets bigger and bigger as it falls. The strength with which the Earth pulls on something in the form of gravity is a type of acceleration. Earth pulls everything with the exact same amount. The force that objects feel may be different because they have different masses, but the acceleration on Earth they experience is exactly the same. Because Earth gives everything the exact same acceleration, objects with different masses will still hit the

- ground at the same time if they are dropped from the same height.
- However you might have noticed that if you drop a marble and a feather at the same time, the marble hits the floor first. That is not because of differences in the acceleration which is constant on Earth, it is because air is pushing against the object in the opposite direction the Earth is pulling. This force is caused by air resistance.
- If two objects were dropped on the moon, where there is no air, they would fall at the same rate no matter how much they differ in mass.

22. How do vector vaccines work to provide immunity?

- (A) By introducing a weakened or inactivated virus into the body
- (B) By directly attacking and destroying pathogens in the body
- (C) By placing the virus in a modified version of a different virus
- (D) By entering directly into the cells and enabling them to create spike proteins

Ans: C

- Viral vector-based vaccines differ from most conventional vaccines in the sense that they don't actually contain antigens, but rather use the body's own cells to produce them.
- They do this by using a modified virus (the vector) to deliver genetic code for antigen, in the case of COVID-19 spike proteins found on the surface of the virus, into human cells.
 - 1. Several different viruses have been used as vectors, including influenza, vesicular stomatitis virus (VSV), measles virus, and adenovirus, which causes the common cold.
 - **2. Adenovirus** is one of the viral vectors used in some Covid-19 vaccines being studied in clinical trials.



- By infecting cells and instructing them to make large amounts of antigen, which then trigger an immune response, the vaccine mimics what happens during natural infection with certain pathogens - especially viruses.
- This has the advantage of triggering a strong cellular immune response by T cells as well as the production of antibodies by B cells.
- ❖ An example of a viral vector vaccine is the rVSV-ZEBOV vaccine against Ebola.
- The Janssen/Johnson & Johnson COVID-19 vaccine is a vector vaccine.

23. The process that continually adds new crust is

- (A) subduction
- (B) earthquake
- (C) seafloor spreading
- (D) convection

Ans: C

Exp: Seafloor spreading is a **geologic process** in which tectonic plates (large slabs of Earth's lithosphere) split apart from each other.

- Seafloor spreading occurs at divergent plate boundaries (when plates move away from each other). At spreading centers, magma from deep in the Earth forces its way up between two plates, pushing them apart.
- As it nears the ocean floor, the magma cools and solidifies into new rocks called Igneous rocks, which is then pushed apart by another round of magma.
- These spreading centers are often called mid-ocean ridges because many are found in the oceans and are usually higher than surrounding parts of the ocean floor.
- ❖ The rate of sea-floor spreading resulting from this process is from 0.5 to 8 inches per year (1–20 cm/yr), depending on the particular mid-ocean ridge.
- 24. The theory that states "pieces of the Earth's crust are in constant, slow motion driven by movement in the mantle" is called

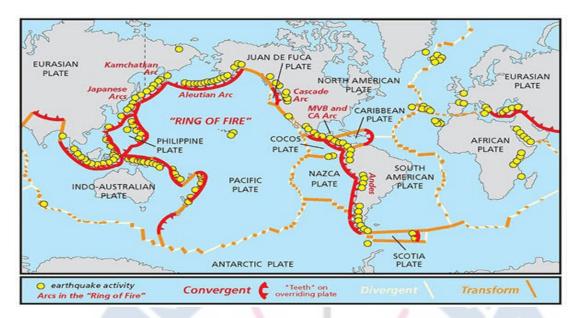
- (A) the theory of continental drift
- (B) the theory of Pangaea
- (C) the theory of plate tectonics
- (D) the theory of plate boundaries

Ans: C

Exp: The plate tectonics theory was first propounded by the German meteorologist Alfred Wegener in the form of Continental drift theory. According to the theory of plate tectonics, the lithosphere, which is the rigid outermost shell of a planet (the crust and upper mantle), is formed out of seven major and some minor plates that are called tectonic plates. The 7 major plates are: African, Antarctic, Eurasian, Indo-Australian, North American, Pacific and South American. These plates lie on top of a partially molten layer of rock called the asthenosphere. Due to the convection of the asthenosphere and lithosphere, the plates move relative to each other at different rates, from two to 15 centimeters (one to six inches) per year. The movement of the plates results in the building up of stresses within the plates and the continental rocks above, leading to folding, faulting, earthquakes, volcanic activity, mountain building and oceanic trench formation. Broadly, these plate movements are classified into three types.

- While some plates come towards each other and form convergent boundaries.
- Some plates move away from each other and form divergent boundaries.
- In the event of two plates coming together they may either collide and crumble, or one may slide under the other.
- At times, they may also move horizontally past each other and form a transform boundary.

The movement of these plates have changed the position and size of the continents over millions of years.



- 25. What is the expanded form of the term 'mRNA' that has been widely discussed since the beginning of the pandemic?
 - (A) Messenger Ribonucleic Acid
 - (B) Mutant Ribonucleic Acid
 - (C) Modified Ribonucleic Acid
 - (D) Mnemonic Ribonucleic Acid

Ans: A

Exp: mRNA stands for **messenger Ribonucleic Acid** and is the single stranded molecule that carries the instructions to make proteins.

- ❖ It is a type of single-stranded RNA, involved in protein synthesis. mRNA is made from a DNA template during the process of transcription. (The process of making mRNA from DNA is called transcription, and it occurs in the nucleus).
- ❖ The role of mRNA is to carry protein information from the DNA in a cell's nucleus to the cell's cytoplasm (watery interior), where the protein-making machinery reads the mRNA sequence and translates these into its amino acid, in a growing protein chain.

mRNA vaccines work by introducing a piece of mRNA that corresponds to a viral protein, usually a small piece of a protein found on the virus's outer membrane. (Individuals who get an mRNA vaccine are not exposed to the virus, nor

can they become infected with the virus by the vaccine.) By using this mRNA, cells can produce the viral protein. As part of a normal immune response, the immune system recognizes that the protein is foreign body and produces specialized proteins called antibodies.

In simple words, an mRNA vaccine works by triggering your immune system to create antibodies. Antibodies are proteins in the body.

Examples of mRNA vaccines include **Pfizer and Moderna** vaccines.

- 26. An AC current can be produced by
 - (A) choke coil
 - (B) dynamo
 - (C) transformer
 - (D) None of the above

Ans: B

- Dynamo is an electric generator which generates electrical power by converting mechanical energy into electrical energy through electromagnetic induction discovered by Michael Faraday.
 - 1. According to this principle, when a wire moves through a magnetic field, it causes electrons to move, which generates electricity.



- The simplest practical generator consists of a rectangular coil, known as an armature which rotates between the magnets. When the armature rotates, it cuts through the magnetic field produced by the magnets. This change in the magnetic field induces a voltage in the coil, causing an electric current to flow. The mechanical energy used to rotate the armature is thus converted into electrical energy.
- The current produced by a simple dynamo is alternating current (AC), as the direction of the current changes with each half turn of the coil. Dynamos can convert AC into DC by incorporating a component called a commutator.

	Alternating Current (AC)		Direct Current (DC)
*	It is a type of electrical current, in which the direction of the flow of electrons switches back and forth at regular intervals or cycles.	*	It is a type of electrical current which flows consistently in one direction in a steady voltage.
*	It is most commonly used in electric power for household equipment, office, buildings etc.	*	It is commonly used in electric devices that run on batteries. Example, mobile phones, flashlights etc.
*	It was first tested based on the principles of Michael Faraday in 1832 using a Dynamo Electric Generator.	*	Italian physicist Alessandro Volta was the first to produce direct current in 1800.
*	The frequency of AC is different in different country. But, generally, the frequency is 50 Hz or 60 Hz.	*	DC has no frequency or zero frequency.
*	Alternating current is used to transmit electricity over long distances of less than 1000 km.	*	DC cannot be transferred over a very long distance. It loses electric power.

27. Current density is

- (A) a scalar quantity
- (B) a vector quantity
- (C) dimensionless
- (D) None of the above

Ans: B

Exp: Current density (J) is a measure of the flow of electric current through a conductor per unit area. It is typically denoted in amperes per square meter (A/m^2) . The formula for current density is: J = I/A

Current density is a vector quantity having both a direction and a scalar magnitude. The electric current flowing through a solid having units of charge per unit time is calculated towards the direction perpendicular to the flow of direction.

- 28. What is the basis of the most useful classification of medications in medical chemistry?
 - (A) Pharmacological effect

- (B) Molecular targets
- (C) Chemical structure
- (D) None of the above

outlined as follows:

Ans: B

Exp: Pharmaceutical Drugs or medicines are chemicals of low molecular masses (~100 – 500u). These interact with macromolecular targets and produce a biological response. When the biological response is therapeutic and useful, these chemicals are called medicines and are used in diagnosis, prevention and treatment of diseases.

Medicines can be classified mainly on criteria

- (a) On the basis of pharmacological effect-For example, analgesics have pain killing effects, antiseptics kill or arrest the growth of microorganisms.
- **(b)** On the basis of drug action- For example, all antihistamines inhibit the action of the compound, histamine which causes inflammation in the body. There are various



ways in which the action of histamines can be blocked.

- (c) On the basis of chemical structure— Drugs classified in this way share common structural features and often have similar pharmacological activity.
- (d) On the basis of molecular targets- Drugs usually interact with bio-molecules such as carbohydrates, lipids, proteins and nucleic acids. These are called target molecules or drug targets. Drugs possessing some common structural features may have the same mechanism of action on targets. The classification based on molecular targets is the most useful classification for medicinal chemists.

29. Which of the following slows down the reaction rate?

- (A) Catalytic promoter
- (B) Homogeneous catalyst
- (C) Heterogeneous catalyst
- (D) None of the above

Ans: D

- **Exp:** An inhibitor is a substance that delays, slows or prevents a chemical reaction. It may also be called a negative catalyst. There are three common classes of inhibitors:
 - Corrosion inhibitor: A corrosion inhibitor decreases the rate of oxidation of metal.
 - * Enzyme inhibitor: In chemistry and biology, an enzyme inhibitor binds to an enzyme, lessening its activity. Enzyme inhibitors may be reversible or irreversible.
 - Reaction inhibitor: A reaction inhibitor is any substance that decreases the rate of a chemical reaction. Corrosion inhibitors and enzyme inhibitors are both types of reaction inhibitors. Reaction inhibitors are classified by their potency as strong, moderate, or weak.

30. Input and output nerves meet at

- (A) liver
- (B) central nervous system
- (C) heart
- (D) None of the above

Ans: B

Exp: The central nervous system has four parts, namely, Brain, Spinal cord, Nerve and Neurons. The Input and output nerves meet at several places, particularly in the spinal cord. They do not meet in the liver or the heart as they do not form part of the nervous system.

The nervous system has three main functions: sensory input, integration of data and motor output.

- Sensory input is when the body gathers information or data, by way of neurons, glia and synapses.
- The nervous system is composed of excitable nerve cells (neurons) and synapses that form between the neurons and connect them to centers throughout the body or to other neurons.
- These neurons operate on excitation or inhibition, and although nerve cells can vary in size and location, their communication with one another determines their function.
- Nerves from all over the body meet in a bundle, in the spinal cord on their way to the brain. Reflex arcs are formed in this spinal cord itself, although the information input also goes on to reach the brain.
- The data is then processed by integration of data, which occurs only in the brain.
- After the brain has processed the information, impulses are then conducted from the brain and spinal cord to muscles and glands, which is called motor output.

The communication between the central nervous system and the other parts of the body is facilitated by the peripheral nervous system consisting of cranial nerves arising from the brain and spinal nerves arising from the spinal cord.

31. In the context of 'Shipwreck Tourism', shipwrecks in Indian waters have been explored at Sunchi Reef, Amee Shoals and Grande Island. Where are these locations?



- (A) Off the coast of Goa
- (B) Off the coast of Lakshadweep
- (C) Off the coast of Tamil Nadu
- (D) Off the coast of Odisha

Ans: A

Exp: Shipwreck Tourism has gained fraction worldwide in which people pay to explore wrecked ships deep under water. The recent example being the submersible Titan which went missing while exploring the Titanic shipwreck.

India also has its share of shipwrecks. The recorded shipwreck history of India starts from the European period onwards. Since the initiation of shipwreck studies in Indian waters shipwrecks have been explored in (Sunchi Reef, St George's Reef, Amee Shoals, SailRock, Grande Island) off Goa, (four in Minicoy Island and one in Suheli Par) off Lakshadweep Islands, and one each off Poompuhar and Konark in Tamil Nadu and Odisha waters respectively.

32. The G20 members represent

- 1. around 85% of the global GDP
- 2. about 50% of the global trade
- 3. about two-thirds of the world population Which of the above statistics is/are correct?
- (A) Only 1
- (B) Only 1 and 3
- (C) 1, 2 and 3
- (D) Only 1 and 2

Ans: B

Exp: The G20 or Group of 20 is an intergovernmental forum comprising 19 sovereign countries, the European Union (EU), and the African Union (AU).

- ❖ Inception of G20- The G20 was founded in 1999 after the Asian financial crisis as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues.
- The G20 members represent around 85% of the global GDP, over 75% of the global trade, and about two-thirds of the world population.
- Structure: The G20 operates on the basis of annual meetings of Finance Ministers and Central Bank Governors, with a leaders'

summit held once a year. The G20 presidency rotates annually.

- 1. 19 countries are divided into 5 groups. The presidency rotates between each group.
- 2. **Troika:** The G20 does not have a charter or a secretariat. The Presidency is supported by the Troika, which includes the previous, current, and incoming presidencies. The G20 Presidency hosts the Summit and directs the agenda for the calendar year.
- 3. Its decisions are not legally binding, and member countries are not forced to implement them.
- ❖ G20 summit- India hosted the 18th G20 Leaders' Summit 2023 for the first time in history, with 43 Heads of Delegation attending the final New Delhi Summit on 9-10 September 2023.
 - 1. The Theme of India's G20 presidency was: "Vasudhaiva Kutumbakam" or "One Earth One Family One Future".
 - 2. India had assumed the 18th presidency on 1 December 2022 for a period of one year which was handed over to the Brazilian President Luiz Inacio Lula da Silva at the summit, who will officially take over the presidency on December 1, 2023.

33. Who is the Head of Russia's Wagner Mercenary Group?

- (A) Sergei Shoigu
- (B) Yevgeny Prigozhin
- (C) Aleksandr Lukashenko
- (D) Volodymyr Zelenskyy

Ans: DELETED

Exp:

Yevgeny Prigozhin, the head of the Wagner Mercenary Group died on 23.08.2023 and this exam was held on 29.09.2023. So on the date of examination, no one was the Head of Russia's Wagner Mercenary Group. Since no option is correct. Hence the question is deleted.



- The Wagner Group, officially called PMC Wagner, is a Russian paramilitary organization that operates beyond the law in Russia. It is basically a private military company and a network of mercenaries.
- The group was first identified in 2014 while backing pro-Russian separatist forces in eastern Ukraine.
- The organization has also been active across Africa in recent years — Libya, Sudan, Mozambique, Mali and the Central African Republic.
- It is said to have been founded by Dmitry Utkin, a former special forces officer, a member of Russia's military intelligence service and a veteran of both Chechen wars.

34. The Global Gender Gap Report is released by

- (A) the World Bank
- (B) the UN Women
- (C) the World Economic Forum
- (D) the UNDP

Ans: C Exp:

- The Global Gender Gap Report is an annual report of the World Economic Forum that benchmarks the current state and evolution of gender parity across four key dimensions:
 - 1. Economic Participation and Opportunity,
 - 2. Educational Attainment,
 - 3. Health and Survival, and
 - 4. Political Empowerment
- India improved its ranking from 135th in 2022 to 127th out of 146 countries in the 2023 edition of the report.

35. Which one of the following statements regarding Queen Elizabeth II of the United Kingdom is correct?

- (A) She reigned for 70 years and died at the age of 96 years.
- (B) She reigned for 68 years and died at the age of 94 years.
- (C) She reigned for 72 years and died at the age of 92 years.

(D) She reigned for 66 years and died at the age of 90 years.

Ans: A Exp:

- Queen Elizabeth II was the monarch of the United Kingdom of Great Britain and Northern Ireland. She assumed the title of Queen in 1952 after her father's death and reigned for more than 70 years until her death on Sept. 8, 2022 at the age of 96, making her the longest-reigning monarch in British history.
- The Queen was born as Elizabeth Alexandra Mary Windsor, in Mayfair, London, on 21 April 1926. She was crowned at Westminster Abbey on 2 June 1953, aged 27, in front of a then-record TV audience estimated at more than 20 million people.
- She was also the only female member of the royal family to have entered the armed forces and served in World War II.
- Her reign spanned 15 prime ministers starting with Winston Churchill, born in 1874, to Ms. Liz Truss, born in 1975.

36. What was the theme of Def-Expo- 2022, held in Gujarat?

- (A) India: The Emerging Defence Manufacturing
 Hub
- (B) Path to Pride
- (C) Synergy for Defence
- (D) Aatmanirbharta

Ans: B

Exp: Def-Expo is a flagship biennial event of the Ministry of Defence, showcasing the land, naval, air as well as homeland security systems.

- The Theme of the 2022 expo is Path to Pride.
- It was held in Gandhinagar, Gujarat between March 10-13, 2022.
- The aim of the Def-Expo 2022 was to build upon the vision to achieve Atmanirbharta' in defence and reach the defence exports target of \$5bn by 2024.

37. The three-day celebration of Thadingyut Festival is celebrated in which country?

- (A) Chile
- (B) Nepal
- (C) Germany
- (D) Myanmar

Ans: D

Exp: The Thadingyut Festival of Myanmar is a Buddhist festival that's held on the full moon day of the Myanmar's lunar month of Thadingyut.

- * The festival marks the descent of Lord Buddha from heaven after he sermonized the Abhidamma to his mother who was born in heaven.
- * It is the second most popular festival in Myanmar after the Thingyan Festival (New Year Water Festival).
- **❖** The celebration lasts for three days the day before the full moon, the full moon day, and the day after the full moon.
- It is also called the Lighting Festival of Myanmar.

38. Consider the following statements regarding the 'White House':

- 1. The address of the White House is 1800 Pennsylvania Avenue.
- 2. It is the official residence and workplace of the President of the USA.
- On November 1, 1800, John Adams became the first President to take residence in the building.
- 4. It is a symbol of American Democracy.

Which of the above statements are correct?

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

Ans: D

Exp:

- The White House is the official residence and workplace of the president of the United States. It is located at 1600 Pennsylvania Avenue NW in Washington, D.C., and has been the residence of every U.S. president since John Adams in 1800, when the national capital was moved from Philadelphia to Washington, D.C.
- * The first president, George Washington, selected the site for the White House in 1791. The following year, the cornerstone was

laid and a design submitted by Irish-born architect James Hoban was chosen.

- * At various times in history, the White House has been known as the "President's Palace," the "President's House," and the "Executive Mansion."
- President Theodore Roosevelt officially gave the White House its current name in 1901.
- It is a symbol of American Democracy because the President of the U.S.A is an essential part of the American Constitution.
- The congress and senate meet at Capitol Hill, but they cannot function properly without the president, whose office is at White House. (The U.S. Capitol Complex is the home of the Legislative Branch of the United States federal government, and seat of the United States Congress.)

39. 'Net Metering' is sometimes seen in the news in the context of promoting

- (A) the installation of CNG kits in motorcars
- (B) the installation of water meters in urban households
- (C) a billing mechanism for solar energy by consumers for the electricity they add to the grid
- (D) the use of piped natural gas in the kitchens of households

Ans: C

Exp:

FOR TARKASH-2ND EDITION

- Net metering is a billing mechanism that allows domestic or commercial users who generate their own electricity using solar panels or photovoltaic systems to export their surplus energy back to the grid. It gives users the opportunity to gain extra revenue by selling their excess power to the utility grid while also making up for the shortfalls via the grid.
 - 1. For example, if a user has a photovoltaic system on their roof, it may generate more electricity than the home uses during daylight hours. In such a case the electricity meter will run backwards



- to provide a credit and the user gets compensated.
- 2. However, if the amount of energy consumed is more than the amount of energy generated, then it is imported from the grid and the owner pays only the net amount.
- 3. Customers are **only billed for their** "**net**" **energy use**. The utility doesn't just charge for the total amount of energy a user has drawn from the grid; instead, it measures both how much a user has pulled in from the grid and how much has been fed back in order to charge for the net amount, hence the term "net metering."

40. Match List-I with List-II:

List-I	List—II
(Colour)	(Combination)
(a) Magenta	1. Green and blue
(b) Teal	2. Red and blue
(c) Mauve	3. Blue, green and white
(d) Cyan	4. Blue, red and white
Select the co	rrect answer using the codes given
below.	

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

Ans: A

Exp:

- * Magenta is a secondary color which is obtained from mixing red and blue colors.
- * Teal is obtained by mixing blue, green and white colors. It is named after the colored area around the eye of the common teal bird.
- * Mauve is obtained by mixing the colors blue, red and white. It is a pale purple color named after the mallow flower.
- **Cyan** is a combination of green and blue.

- 41. What is the name of the deep sea submersible that imploded during an underwater voyage to the Titanic wreckage?
 - (A) Alvin
- (B) Falcon
- (C) Trident
- (D) Titan

Ans: D

Exp:

- The Titan was a five-person research and survey submersible owned and operated by OceanGate — a private company that provides submersibles for commercial, research and military purposes.
- ❖ It went on a deep-sea dive at depths of around 4000 m in order to reach the Titanic shipwreck, which lies approximately 370 miles south of Newfoundland, Canada, where it was believed to have imploded.
- The reason for the implosion is the extreme pressure that the submersible had to withstand due to the heavy load of water pressing down on it. If the pressure outside the submersible becomes significantly greater than the pressure inside, it can cause the vessel to implode.

42. Match List-II with List-II:

List-I	List-II
(Footwear/Fashion	(Description)
Accessory)	

- Accessory)
 (a) Beret 1. A type of men's footwear
- (b) Stilettos 2. A type of sunglasses
- (c) Aviators 3. A type of hat
- (d) Chignon 4. A type of women's footwear
- (e) Brogue 5. A type of hairstyle

Select the correct answer using the codes given below.

(A)	a	b	c	d	e
	3	2	1	4	5
(B)	a	b	c	d	e
	3	4	2	5	1
(C)	a	b	c	d	e
	5	3	2	4	1
(D)	a	b	c	d	e
	1	2	3	4	5



Ans: B Exp:

- A beret is a circular, flat hat that is made of soft material and has no brim. Mass production of berets began in Spain and France during 19th century, and since then the beret remains associated with these countries. Berets are worn as part of the uniform of many military and police units worldwide, as well as by other organizations.
- A stiletto heel, or just stiletto, is a shoe with a long, thin, high heel.
- Aviators are a type of sunglasses and they are called aviators because they were originally designed for pilots, who needed a pair of sunglasses that would protect their eyes from the harsh glare of the sun while they were flying. These sunglasses were first designed for pilots in the early 1900s.
- A chignon, from the French chignon meaning a bun, is a hairstyle characterized by wrapped hair on the back of the head.
- * Brogue is a strong outdoor shoe with ornamental perforated patterns in the leather for men. Modern brogues trace their roots to a rudimentary shoe originating in Ireland and Scotland that was made using untanned hide.

43. Where did the former President of the USA give his interview recently?

(A) Rome

(B) Sarajevo

(C) Athens

(D) Amsterdam

Ans: C Exp:

The most recent interview was given by **Barack Obama at Athens on 26-06-2023**, (earlier interviews do not count). Obama took to the stage of the Greek National Opera's Stavros Niarchos Hall in southern Athens for a conversation with Stavros Niarchos Foundation (SNF) Co-President Andreas Dracopoulos. SNF is a private, international philanthropic organization making grants to non-profit organizations globally in the areas of arts and culture, education, health and sports, and social welfare.

Trump gave the interview on January 06,2023. Obama gave it more recently on June 26.

44. In the context of sports, which of the following pairs are correctly matched?

1. Flushing Meadows: French Open

- Venus Rosewater Dish: Wimbledon Trophy (Women)
- 3. Roland Garros: US Open
- 4. Australian Open (Women) : Daphne Akhurst Memorial Cup

Select the correct answer using the codes given below.

(A) 1 and 2

(B) 2 and 3

(C) 3 and 4

(D) 2 and 4

Ans: D

- The US Open Tennis Championships, commonly called the US Open, is a hard-court tennis tournament held annually at the USTA Billie Jean King National Tennis Center in Flushing Meadows-Corona Park, Queens, New York City.
 - 1. Since 1987, the US Open has been chronologically the fourth and final Grand Slam tournament of the year held in late August to early September (except in 2020, when the French Open was delayed to occur after the US Open due to the COVID-19 lockdowns).
- The Venus Rosewater Dish is the Ladies' Singles Trophy awarded at The Championships, Wimbledon, and was first presented to the Champion in 1886. Wimbledon is held in late June to early July.
- The French Open, also known as Roland-Garros, is a major tennis tournament held over two weeks at the Stade Roland Garros in Paris, France, beginning in late May each year. The tournament and venue are named after the French aviator Roland Garros.
- The Australian Open women's singles trophy is named the Daphne Akhurst



Memorial Cup after the **Australian tennis player Daphne Jessie Akhurst.** She won the women's singles title at the Australian Championships five times between 1925 and 1930. According to Wallis Myers, She was ranked World No. 3 in 1928. The Australian Open is held in the month of **January every year.**

2023 Winners	Australian Open 2023	French Open 2023	Wimbledon 2023	US Open 2023
Men's Singles	Novak Djokovic	Novak Djokovic	Carlos Alcaraz	Novak Djokovic
Women's Singles	Aryna Sabalenka	Igarashi Swiatek	Marketa Vondrousova	Coco Gauff

45. The Ministry of Home Affairs has completed the Mother Tongue Survey of India (MTSI) in November 2022 with field videography of the country's how many languages?

(A) 40

(B) 233

(C) 576

(D) 984

Ans: C

Exp: The Ministry of Home Affairs (MHA) completed the Mother Tongue Survey of India (MTSI) with **field videography** of the country's **576 languages** in November 2022.

Mother Tongue Survey of India (MTSI)

- It is a project that surveys the mother tongues, which are returned consistently across two and more Census decades.
- It also documents the linguistic features of the selected languages.
- The National Informatics Centre (NIC) and the National Film Development Corporation (NFDC) will be documenting and preserving the linguistic data of the surveyed mother tongues in audio-video files.

According to the 2011 linguistic census data released in 2018, there are more than 19,500 languages and dialects spoken as mother tongues in India which are grouped into 121 categories of mother tongue.

- Hindi is the most spoken mother tongue by 52.8 crore people, accounting for 43.6 percent of the population followed by Bengali with 9.7 crore people or 8 percent of the population speaking it.
- 46. Which State Government launched the State-Level Committee for Vulture Conservation (SLCVC), proposed by the national action for the protection of vultures in India?

(A) Tamil Nadu

(B) Sikkim

(C) Assam

(D) Meghalaya

Ans: A

Exp: The Government of Tamil Nadu has constituted the State-level Committee for Vulture Conservation (SLCVC) for coordination between various wings of the government to implement the Action Plan for Vulture Conservation (APVC) 2020-2025.

- The committee will work to establish efficient regulatory mechanisms for ban on the drugs found toxic to vultures like non-steroidal anti-inflammatory drugs (NSAIDS) that have been banned under the Vulture Action Plan (2020-25).
- The committee will also be tasked with creating more breeding grounds and rescue centers for the raptors in the state, along with regular monitoring of the vulture population in the state.
- It will also participate in the nation-wide vulture census and identify locations for carrying out the census and creating 'vulture safe zones' in the state. It will also prepare an Annual Report of Action Plan for Vulture Conservation.

As many as seven of the nine species of raptors found in India are 'critically endangered' and 'near threatened', according to the International Union for Conservation of Nature Red List of Threatened Species.

47. Ten captive-bred Asian Giant Tortoises (Manouria emys), one of the largest tortoise species in mainland Asia, were recently released into which National Park of India?

- (A) Ntangki National Park
- (B) Periyar National Park
- (C) Pench National Park
- (D) Khangchendzonga National Park

Ans: A

- Exp: Ten captive-bred Asian Giant Tortoises (Manouria emys), one of the largest tortoise species in mainland Asia were recently released into the Ntangki National Park of Nagaland. The species were born and bred in 2018 at the Nagaland Zoological Park, Dimapur.
 - They are listed as 'critically endangered' under the International Union for Conservation of Nature Red List of Threatened Species.
- 48. Which country has recently reaffirmed Arunachal Pradesh as an integral part of India?

(A) USA

(B) Australia

(C) Germany

(D) Russia

Ans: A

Exp: Germany issued the statement in August 2022.

The U.S.A reiterated its position in July 2023 to say that Arunachal Pradesh is an integral part of India.

- A Congressional Senatorial Committee in July 2023, passed a resolution recognizing Arunachal Pradesh as an integral part of India.
- ❖ The resolution reaffirmed that the United States recognizes the McMahon Line as the international boundary between the People's Republic of China and the Indian state of Arunachal Pradesh. It pushed back against Chinese claims that large portions of Arunachal Pradesh are Chinese territory.
- 49. India's Rudrankksh Balasaheb Patil won which medal in Men's 10 m Air Rifle at the ISSF World Championship in Cairo?

(A) Gold

(B) Silver

(C) Bronze

(D) None of the above

Ans: A

Exp: India's Rudrankksh Balasaheb Patil won **Gold** medal in Men's 10 m Air Rifle at the ISSF World Championship in Cairo.

50. The National Education Policy, 2020 emphasizes the integration of vocational education into mainstream education from which grade onwards?

(A) Grade 6

(B) Grade 8

(C) Grade 10

(D) Grade 12

Ans: A

Exp: The new National Education Policy (NEP) 2020 is the first education policy of the 21st century in India, which replaces the previous National Policy on Education (NPE) 1986.

The NEP 2020 suggests the integration of vocational education into mainstream education in all educational institutions in a phased manner over the next decade.

- * According to NEP 2020, by 2025, at least 50% of learners shall have vocational exposure through school and higher education. Every child is supposed to learn at least one vocation and be exposed to several more.
- The NEP 2020 stated that there will be 'no hard separation' between the vocational and academic streams.
- School students will have 10 bag-less days in a year, during which they are to be exposed to a vocation of choice. This will be supplemented by experiential vocational learning from Grades 6 to 8.
- Every student will take a fun course during Grades 6 to 8 that gives a survey and hands on experience of vocational crafts.
- Skill labs will also be set up and created in the schools, which will allow other schools to use the facility.
- At the Secondary stage i.e., for students of ages 15 to 18 years or Grades IX to XII, every student will receive training in at least one vocation, and more if they are interested.
- 51. India signed the Economic Cooperation and Trade Agreement (ECTA) with which country?

(A) UAE

(B) Australia

(C) USA

(D) UK

Ans: B



- The India-Australia Economic Cooperation and Trade Agreement (ECTA) entered into force on December 29, 2022.
- ❖ The India-Australia ECTA is the first trade agreement of India with a developed country after more than a decade. The ECTA between India and Australia covers almost all the tariff lines dealt in by India and Australia respectively.
- The Agreement encompasses cooperation across the entire gamut of bilateral economic and commercial relations between the two friendly countries, and covers areas like Trade in Goods, Rules of Origin, Trade in Services, Technical Barriers to Trade (TBT), Sanitary and Phytosanitary (SPS) measures, Dispute Settlement, Movement of Natural Persons, Telecom, Customs Procedures, Pharmaceutical products, and Cooperation in other Areas. Eight subject-specific side letters, covering various aspects of bilateral economic cooperation were also concluded as part of the Agreement.
- 52. The Plain Language Act was passed by which of the following countries recently which requires Government officials to use simple and easily understandable English language in official documents and websites?

(A) Australia

(B) Ireland

(C) New Zealand

(D) Germany

Ans: C Exp:

- The Plain Language Act which was passed by the New Zealand Parliament bans the bureaucracy and websites from using inexplicable jargon and complex language while communicating with the public. The country aims to become a more inclusive democracy by helping people who speak English as their second language, those with disabilities, and the less educated.
- ❖ It applies to content in English that is intended for the general public rather than a specific person. It includes content that is in print or online. Content must be in plain

- **language** if it's: about government services or entitlements and how to access them.
- The law was based on the United States Plain Writing Act of 2010 which requires the US Federal Government to produce public documents in a 'clear, concise, wellorganized' manner, the lawmaker said.
- 53. Tillyardembi Fossils of the world's first plant pollinators, called Tillyardembiids, were discovered recently in which country?

(A) Greece

(B) India

(C) Russia

(D) China

Ans: C

Exp:

- Fossils of the oldest known insect and the world's first plant pollinators called Tillyardembiids was discovered recently along the riverbank near the village of Cheekarda in Russia.
- Tillyardembiids are earwig-like insects. They are flattened creatures and had clumps of pollen on their heads, bodies and legs.
- The specimens found in Russia were estimated to be around 280 million years old. It is also one of the oldest ever insects, older than the mosquitoes found during Jurassic era, which were nearly 200 million years old
- 54. The 'Lisbon Declaration', which made headlines, is associated with the conservation of which entity?

(A) Air

(B) Mountains

(C) Oceans

(D) Freshwater glaciers

Ans: C

- On July 1, 2022, all the 198 members of the United Nations unanimously adopted the Lisbon Declaration on ocean conservation.
- The Lisbon declaration 'Our ocean, our future, our responsibility,' called on governments to do more to prevent, reduce, and eliminate marine plastic litter including single-use plastics and microplastics by contributing to comprehensive life-cycle



approaches, encouraging recycling and environmentally sound waste management.

Which of the following animals was not known to the people of the Indus Valley Civilization?

- (A) Bull
- (B) Horse
- (C) Elephant
- (D) None of the above

Ans: B

Exp: There are limited evidence of horses from the earlier Bronze Age, Harappan or Indus valley civilization. Many of the famous terracotta seals recovered from the Harappan sites were engraved with various animals such as Bull, elephant etc., but there were no sign of horses. Therefore, horses were not known to the Indus Valley people. Both Dr R.S. Sharma and Dr. Romila Thappar has stated that it is not confirmed that the bones found in Surkotada are of a horse or an ass.

Which of the following is not a UNESCO **World Heritage Site?**

- (A) Qutab Minar
- (B) Red Fort
- (C) India Gate
- (D) None of the above

Ans: C

FOR TARKASH-2ND EDITION

Exp: UNESCO World Heritage Site is a place that is recognized, by the United Nations Educational, Scientific and Cultural Organization, as of distinctive cultural or physical importance which is considered of outstanding value to humanity. UNESCO strives to encourage the conservation, identification, and maintenance of natural and cultural heritage around the world under the Convention regarding the Protection of the World Cultural and Natural Heritage, accepted by UNESCO in 1972.

- There are 42 UNESCO World Heritage Sites in India. There are 7 natural heritage sites, 34 cultural heritage sites and one mixed site (Khangchendzonga National Park).
- Shantiniketan, established by Nobel laureate Rabindranath Tagore and the Sacred Ensemble Of the Hoysalas in Karnataka Became the 41st and the 42nd world heritage site in India in September 2023.
- There are 3 sites in Delhi, the Red Fort Complex, the Qutab Minar and Humayun's tomb.

Natural Heritage Sites	Cultural Heritage Sites			
 Assam- Kaziranga National Park 	❖ Delhi- the Red Fort Complex, the Qutb Minar and Humayun's tomb.			
and Manas WildlifeSanctuary.	Bihar- Mahabodhi temple complex at Bodh Gaya, Archaeological			
Rajasthan- Keoladeo National	Site of Nalanda Mahavihara (Nalanda University).			
Park.	Chandigarh- The Architectural Work of Le Corbusier, an Outstanding			
Uttarakhand- Devi National Park	Contribution to the Modern Movement			
and Valley of Flowers.	Gujarat- Dholavira, Ran-ki-vav, Historic city of Ahmedabad,			
❖ West Bengal- Sundarban	Champaner-Pavagadh Archaeological Park.			
National Park.	Uttar Pradesh- Taj Mahal, Agra Fort, Fatehpur Sikri.			
Himachal Pradesh- Great	Rajasthan- Hill Forts, Jaipur City, Jantar Mantar.			
Himalayan National Park.	Maharashtra- Ajanta, ellora, elephanta caves, Shivaji Chhatrapati			
Western Ghats.	Terminus, Victorian and Art Deco Ensemble of Mumbai.			
	Madhya Pradesh- Khajuraho Group of Monuments, Sanchi Stupa, rock shelters of Bhimbetka.			
	West Bengal- Shantiniketan.			
	Karnataka- Group of Monuments at Hampi, pattadakal, sacred Ensemble of the Hoysalas.			
	Odisha- Sun Temple Konark.			
	Telangana- Kakatiya Rudreshwara (Ramappa) Temple.			
	Tamil Nadu - Group of Monuments at Mahabalipuram, Great Living			
	Chola Temples, Mountain Railways of India.			
	❖ Goa- churches and convents of Goa			



57. The concept of the Directive Principles of State Policy in the Indian Constitution was borrowed from the Constitution of

- (A) England
- (B) Switzerland
- (C) Ireland
- (D) None of the above

Ans: C Exp:

- The concept of Directive Principles of State Policy (DPSP) emerged from Article 45 of the **Irish Constitution**, which in turn took inspiration from the Spanish Constitution.
- ❖ Part IV of the Constitution of India (Article 36–51) contains DPSP.
- Article 37 of the Indian Constitution talks about the application of the Directive Principles. It states that the provisions contained in this Part shall not be enforceable by any court, but the principles therein laid down are nevertheless fundamental in the governance of the country and it shall be the duty of the State to apply these principles in making laws.
- These principles aim at ensuring socioeconomic justice to the people and establishing India as a Welfare State.

58. Sikkim became a full-fledged State of the Union of India in

- (A) 1974
- (B) 1975
- (C) 1976
- (D) None of the above

Ans: B **Exp:**

- Sikkim was a small Himalayan kingdom, once ruled by the hereditary monarchy for about 3 centuries from 17 century A.D.
- In 1642 it came under the rule of the Chogyal dynasty, when three lamas crowned Phunstong Namgyal as the first Chogyal (spiritual king) of Sikkim.
- In 1817, Sikkim and Britain signed a treaty known as the Treaty of Titalia, according to which Sikkim was subjugated to British jurisdiction but with some independence.

- In 1950 the kingdom of Sikkim became a protectorate of the Government of India vested with autonomy in its internal affairs while its defence, communications and external relation under the responsibility of the protector.
- The kingdom finally opted to become a full fledged State of the Indian Union with effect from 26 April, 1975 vide the Constitution 36th Amendment Act 1975 with special provision laid for the State under article 371(F) of the Constitution of India. It became the 22nd state of India.

59. Which among the following currencies is the costliest?

- (A) Euro
- (B) Pound Sterling
- (C) US Dollar
- (D) None of the above

Ans: B

- As of November 2023, the **Kuwaiti dinar is the strongest currency in the world** with 1
 Kuwaiti dinar buying 3.26 U.S. dollars (or, put another way, US\$1 equals 0.31 Kuwaiti dinars).
- * However, among the given options, **Pound**Sterling or the British pound is the costliest of the currencies. It is often referred to by its nickname, quid. A quid equals £1, or one pound sterling.
- ❖ It is the fifth strongest currency in the world with 1 British pound buying 1.20 U.S. dollars (or US\$1 equals 0.83 British pounds). It is the currency of the United Kingdom and nine of its associated territories. It is also the oldest existing currency, with origins that can be traced back to continental Europe.
- ❖ The euro is the joint eighth strongest currency in the world with 1 euro buying 1.07 U.S. dollars (or US\$1 equals 0.94 euros). It is the official currency of the Eurozone, being 19 out of the 27 countries that form part of the European Union.



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60. Bihar Government has planned to make Bihar State 'pollution free' by reducing carbon emissions by which year?

(A) 2022

(B) 2024

(C) 2030

(D) 2047

Ans: DELETED

Exp:

- ❖ Bihar signed a memorandum of understanding with the UN Environment Programme to achieve climate resilience and low carbon development by 2040.
- UNEP will provide technical assistance to prepare the State's greenhouse gas inventory and carry out climate impact scenarios and vulnerability assessment.
- This will help make Bihar Pollution free from 2040.

(As this year is not mentioned in any option. Hence deleted.)

61. In Indian art, the construction of 'Stupa', 'Chaitya' and 'Vihara' is related to which of the following?

(A) Ajivika sect

(B) Vaishnava sect

(C) Buddhism

(D) Shaiva sect

Ans: C

Exp: Stupa, Chaitya and viharas are part of Buddhist and Jaina monastic complexes but the largest number belongs to the Buddhist religion.

- A stupa is a dirt burial mound faced with stone, often containing relics or religious objects and used as a place of meditation. Initially stupas were Buddha's relic places. Then it got extended to his followers as well and gradually stupa itself became an object of worship. The Great Stupa in Sanchi, India, is the earliest known stupa, dating back to the fourth century BCE. The largest stupa in the world is Borobudur in Indonesia.
- The Viharas were the monastery where the monks used to live and it acted as their accommodation during the rainy days. The earliest viharas were made of wood, and then of brick. Some were even in caves that were dug out in hills, especially in western India. Viharas can be found in caves like Ajanta,

Ellora (in Aurangabad, Maharashtra) and Kanheri caves.

Chaityas were the places of worship and assembly of the monks and it consists of stupa within the structure at one end. They are usually carved out of rocks as cave structures. Examples include the Bhaja caves and the Karle caves (Lonavla, Maharashtra)

62. In the context of Indian handicrafts, what is 'Sujini' in Bihar?

- (A) A type of glassware
- (B) A metal craft
- (C) A type of embroidery
- (D) A type of clay pottery

Ans: C

- Sujini is a type of embroidery in which women of Bihar stitch discarded dhotis and saris into quilts. It probably started with the utilitarian motive of women of the community to make quilts out of layers of torn, threadbare pieces of clothes to render them strong enough for further use.
- It is common in Bihar, Chattisgarh, Jharkhand and parts of Uttar Pradesh. However, it is exclusively made by women in 15 villages of Bhusra in the Gaighat block of Muzaffarpur and a few villages of Madhubani in the state of Bihar.
- The word Sujini or Sujani is derived from the words "Su" which means facilitating and "jani" meaning birth.
- The women used to make Sujini on the occasions of birth, marriage etc. to present to their loved ones.
- Traditionally, the women embroidered religious scenes from Hindu epics. Today, they boldly present visual images of social issues like infanticide, dowry deaths and other social ills.
- The Sujani Embroidery Work of Bihar got GI tag on 21 September 2006.
- 63. Consider the following statements regarding the Vikramshila University in Bihar:

- 1. It was located in the present-day Banka district of Bihar.
- 2. It was established by King Gopala I of the Pala dynasty.
- 3. The 'Vajrayana' sect of Buddhism flourished here.
- 4. Other subjects like Astronomy, Logic, Law, Grammar and Philosophy were also taught here.

Which of the above statements are incorrect?

- (A) 2 and 3
- (B) 1 and 4
- (C) 1 and 2
- (D) None of the above

Ans: C

- Exp: Situated at Antichak in Kahalgaon sub-division, in the Bhagalpur district, ancient Vikramshila University was one of the three most important Buddhist centers of learning in India during the Pala Empire, along with Nalanda and Odantapuri.
 - The university was established by the King Dharmapala (783 to 820 AD) in response to a supposed decline in the quality of scholarship at Nalanda.
 - It was one of the largest Buddhist universities, with more than one hundred teachers and about one thousand students.
 - It produced eminent scholars who were often invited by foreign countries to spread Buddhist learning, culture and religion. One such scholar was Atisha Dipankara, a founder of the Sarma traditions of Tibetan Buddhism
 - The Vajrayana sect of Buddhism flourished here and other subjects such as Logic, Vedas, astronomy, urban development, law, grammar, philosophy, etc were also taught.
 - Vikramashila is known to us mainly through Tibetan sources, especially the writings of Taranatha, the Tibetan monk historian of the 16th–17th centuries.
 - ❖ It was destroyed by the forces of Muhammad bin Bakhtiyar Khalji around 1193 AD.

64. Consider the following statements:

The arrival of Babur into India led to the

- 1. introduction of gunpowder in the subcontinent
- 2. introduction of arch and dome in the region's architecture
- 3. establishment of Timurid dynasty in the region
- 4. introduction of cannons in warfare

Which of the above statements are correct?

- (A) Only 1 and 2
- (B) 1, 2 and 3
- (C) 3 and 4
- (D) None of the above

Ans: C

- "Gunpowder," as it came to be known, is a mixture of saltpeter (potassium nitrate), sulfur, and charcoal. Together, these materials burn rapidly and explode as a propellant.
 - 1. Chinese monks discovered the technology in the 9th century CE, during their quest for a life-extending elixir. The key ingredient, saltpeter, had been in use by this same culture since the late centuries BCE for medicinal purposes. It was found to be incendiary and immediately applied to warfare.
 - 2. Gun powder existed in India before the arrival of Babur. It is believed to have been introduced in North Western India by the Mongol invaders during the late 13th and early 14th century.
- ❖ Arch and dome existed before Babur. The earliest example of an arch and dome in the region's architecture was the 13th century tomb of Balban located in Mehrauli, Delhi.
- The term 'Timurid' is generally used to describe the descendants of Timur who reigned or competed for power in western Turkestan, Iran, Afghanistan and India.
 - 1. The Timurid legacy and influence in India began with Babur, the founder of the Mughal Empire.
 - 2. Babur was a direct descendant of Genghis Khan through his mother and was a descendant of Timur through his father. Timur was the last of the great



nomadic conquerors of the Eurasian Steppe, and his empire set the stage for the rise of the more structured and lasting Islamic gunpowder empires in the 16th and 17th centuries, one of which was the Mughal Empire.

- In 1526, the First Battle of Panipat saw the introduction of massed artillery tactics to Indian warfare. Under the guidance of Ottoman gun master Ustad Ali Quli, Babur deployed cannons behind a screening row of carts.
- 65. Which among the following ports was called Babul Makka (Gate of Makka) during the Mughal period?

(A) Calicut

(B) Surat

(C) Cambay

(D) Broach

Ans: B

Exp: Surat was referred to as Bab-al-Makkah in Mughal times as it was a departure point for pilgrims traveling for Hajj. It is also known as the gateway of West Asia as Surat is one of the main hubs of goods and clothing traded via sea routes to other Asian countries.

66. 'Ashta Pradhan' was a Council of Ministers

- (A) in the Gupta administration
- (B) in the Chola administration
- (C) in the Maratha administration
- (D) in the Vijayanagara administration

Ans: C

- Exp: The Ashta Pradhan (also termed Asta Pradhan or the Council of 8) was a council of eight ministers that administered the Maratha empire. The council was formed in 1674 by their king, Shivaji (founder of the Maratha Empire). The body discharged the functions of a modern council of ministers; this is regarded as one of the first successful instances of ministerial delegation in India. The members of this council includes:
 - Peshwa Finance and general administration.
 Later he became the prime minister
 - Sar-i-Naubat or Senapati Military commander, an honorary post.

- Amatya or Mazumdar Accountant General.
- Waqenavis Intelligence, posts and household affairs.
- **Sachiv** Correspondence.
- ❖ Sumanta Master of ceremonies
- ❖ Nyayadhish Justice.
- Panditrao Charities and religious administration.

67. The painting of 'Bodhisattva Padmapani' is located at

(A) Bagh

(B) Ellora

(C) Ajanta

(D) Badami

Ans: C

- Exp: The painting of Bodhisattva Padmapani from cave I is one of the masterpieces of Ajanta Painting executed in the late 6th century CE.
 - Padmapani is a Bodhisattva or someone who is on the path of enlightenment or becoming a Buddha.
 - He is the epitome of compassion and is a popular character in Buddhist iconography.
 - In Indian illustrations, he holds the Padma or the lotus flower thus being called Padmapani or the "One who holds a lotus in his hand". The Sanskrit word "pani" means hand.
 - Padmapani is also another name in Sanskrit for Bodhisattva Avalokitesvara, who represents the compassion of all of the Buddhas.
 - In China, the Bodhisattva Avalokitesvara goes by the name Guanyin. Chinese art often depicts Avalokitesvara as female.

Ajanta Cave:

- The rock-cut caves of Ajanta, carved out of granite cliffs in Waghora river valley near Ajanta village in the Aurangabad district of Maharashtra, houses the finest and earliest surviving wall paintings (frescoes) of the ancient world.
- There are a total of 29 caves (all Buddhist) of which 25 were used as Viharas or residential caves while 4 were used as Chaitya or prayer halls.



- * The wall paintings at Ajanta belongs from circa 1st to 7th A.D., reaching its zenith during the Gupta period.
- Most of the paintings depict Buddhist subjects and mainly illustrate the Jataka incidents from the previous lives of Budha.
- The caves were accidentally discovered by a British hunting party headed by Captain John Smith in 1819.
- The site is a protected monument under the Archaeological Survey of India (ASI) and was designated a UNESCO World Heritage Site in 1983.

Consider the following statements: 68.

- 1. Fa-Hien was a Chinese pilgrim who visited India during the reign of Harsha.
- 2. Hiuen Tsang was a Chinese Buddhist monk who visited India during the reign of Chandragupta II.

Which of the above statements is/are correct?

- (A) Only 1
- (B) Only 2
- (C) Both 1 and 2
- (D) None of the above

Ans: D

Exp:

- Fa-Hein was a **Chinese monk** who undertook a trip via Central Asia to India between 399 and 414 CE, in order to seek better copies of Buddhist books, that were already available in China.
 - 1. He described his journey in his travelogue, A Record of Buddhist Kingdoms (Fo-Kwo-Ki).
 - 2. He visited India during the reign of Chandragupta II (Gupta ruler).
 - 3. He traveled to many cities associated with the life of the Buddha - Sravasti, Sarnath, Bodh Gaya, Vaishali, Rajgir, etc and wrote about Taxila, Pataliputra, Mathura, and Kannauj in Middle India.
- Hiuen Tsang or Xuanzang was a chinese buddhist monk who traveled over land from China to India during the reign of

King Harsha Vardhan to obtain Buddhist scriptures. He also came to study at Nalanda University.

- 1. Hiuen-Tsang started his journey to India in 627 AD, traveling overland, and largely following the Silk Road.
- 2. When he went back to China, he wrote a detailed description of India during the reign of Harsha in his book 'Si-vu-ki' or 'Record of the Western Countries'.
- 3. His account described that Pataliputra and Vaishali were in a state of decline, whereas Prayag and Kannuaj had become important.

Match List-II with List-II:

List-I	List-II
a. Charaka	1. Mathematics
b. Brahmagupta	2. Medicine
c. Varahamihira	3. Playwright
d. Vishakhadatta	4. Astrology
Select the correct ans	swer using the codes given
helow	

n

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

Ans: A

- Charaka, born about 300 BC, was the court physician of the famous king Kanishka of Kushan Empire. He is the renowned author of the oldest surviving text in Ayurveda, the Charaka Samhita. He is regarded as the father of Ayurveda, or Ayurvedic medicine. Charaka Samhita, a treatise on medication describes a wide range of ailments and explains their treatment.
- * Brahmagupta (AD 628) was the first mathematician to provide the formula



for the area of a cyclic quadrilateral. His contributions to geometry are significant.

- 1. He is the first person to discuss the method of finding a cyclic quadrilateral with rational sides.
- 2. His celebrated theorems on the circumdiameter of a triangle and on obtaining the diagonals of a cyclic quadrilateral are now well known.
- 3. Brahmagupta's best known work, the **Brahma-sputa-Siddhanta** (Correctly Established Doctrine of Brahma), was written at Bhinmal, a town in the Jalore district of Rajasthan, India. Its **25 chapters** contain several unprecedented mathematical results.
- 4. It contains ideas including a good understanding of the mathematical role of zero, rules for manipulating both negative and positive numbers, a method for computing square roots, methods of solving linear and some quadratic equations, and rules for summing series, the Brahmagupta's identity, and the Brahmagupta's theorem.
- ❖ Varahamihira (6th century CE, possibly c. 505 c. 587), also called Varaha or Mihira, was an astrologer-astronomer who lived in or around Ujjain in present-day Madhya Pradesh, India. He is well known for authoring the Pancha-Siddhantikaa ("Five Treatises"), a compendium of Greek, Egyptian, Roman, and Indian astronomy.
- Vishakhadatta was an Indian Sanskrit poet and playwright. His famous play includes, the Mudrarakshasha and the Devichandraguptam. Mudrarakshasa means "Ring of the Demon" and it recites the ascent of Chandragupta Maurya to the throne.

70. Who among the following introduced the Persian festival Nowruz in India?

- (A) Firuz Shah Tughlaq
- (B) Alauddin Khilji
- (C) Balban
- (D) Iltutmish

Ans: C

Exp: Ghiyasuddin Balban, originally known as **Ulugh Khan** was a Chahalgani Turk who was brought as a slave by Iltutmish.

- Initially, he served as the Sultan's personal attendant or Khasdar and swiftly became one of the most distinguished members of the Chalissa, a group of forty Turkic nobles in Delhi.
- He was appointed to the post of amir-i-shikar (Lord of the hunt) by Raziya, (daughter of Iltutmish and the only woman Emperor of Delhi Sultanate who ruled from 1236-1240).
- He also held the position of naib or deputy to Nasiruddin Mahmud, the younger son of Iltutmish, whom Balban had helped in securing the throne in 1246.
- ❖ Although Balban ascended the throne only in 1266, the entire period from 1246 to his death in 1287 may be called the age of Balban because he was the dominant figure in Delhi during that time. He was the 9th Sultan of Delhi Sultanate.

Balban's theory of kingship was based on power, prestige and justice of the King.

- ❖ Balban followed the Iranian theory of kingship, according which, the king was divine in character, and answerable only to God. He gave the epithet Zil-i-Ilahi, the Shadow of God to himself.
- In his court anyone presented to him had to perform the Sijda and Paibos (prostration i.e. or kissing of the feat of the monarch in the court) before the sovereign, a practice which, according to the theologians, was reserved for God alone.
- He introduced the Persian festival of Nowruz to impress the nobles and people with his wealth and power.
- Balban organized a strong centralized army, both to deal with internal disturbances, and to repel the Mongols who had entrenched themselves in the Punjab and posed a serious danger to the Delhi Sultanate.
- He reorganized the military department (diwan-i-arz) and pensioned off those



- soldiers and troopers who were no longer fit for service.
- Balban adopted a policy of 'blood and iron' to deal with Mewatis, Rajput zamindars and Dacoits of Ganga-Yamuna Doab and Awadh.
- He abolished the Corps of Forty/chahalgani which was a council of 40 Turkic slave emirs who administered the Delhi Sultanate as per the wishes of the sultan.

The tomb of Ghiyasuddin Balban is located in Mehrauli, New Delhi, India built in AD 1287. It is historically significant as it represents the earliest example of Indo-Islamic architectural style in India.

71. Nathpanthis, Siddhas and Yogis made devotional religion popular in

- (A) Northern India
- (B) Southern India
- (C) Eastern India
- (D) Western India

Ans: A

- Exp: A number of religious groups emerged during the medieval period which criticized the ritual and other aspects of conventional religion and the social order, using simple, logical arguments. Among them were the Nathpanthis, Siddhacharas and Yogis.
 - **They advocated renunciation** of the world.
 - To them the path to salvation lay in meditation on the formless Ultimate Reality and the realization of oneness with it.
 - ❖ To achieve this, they advocated intense training of the mind and body through practices like yoga asanas, breathing exercises and meditation.
 - These groups became particularly popular among "low" castes. Their criticism of conventional religion created the ground for devotional religion to become a popular force in northern India.

72. Consider the following statements regarding Wood's Dispatch of 1854:

1. It recommended English as the medium of instruction for higher studies.

2. It laid stress on female education and vocational training.

Which of the above statements is/are correct?

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

Ans: C

- Exp: Regarded as the "Magna Carta of English Education in India", Wood's dispatch of 1854 was the first comprehensive plan for the spread of education in India.
 - It suggested the government of India to assume responsibility for education of the masses, thus repudiating the 'downward filtration theory'.
 - It systematized the hierarchy in education:
 - 1. vernacular primary schools in villages at bottom,
 - 2. Followed by Anglo-Vernacular High Schools
 - 3. an affiliated college at the district level,
 - 4. affiliating universities in the presidency towns of Calcutta, Bombay, and Madras.
 - ❖ It recommended the creation of a Department of Public Instruction in each of the five provinces of Bengal, Bombay, Madras, Punjab and the North Western province.
 - ❖ It recommended English as the medium of instruction for higher studies and vernaculars at school level.
 - It laid stress on female and vocational education, and on teachers' training.
 - ❖ It laid down that the education imparted in government institutions should be secular.
 - It recommended a system of grants-in-aid to encourage private enterprise.

73. The Maithili language was started to develop during the reign of which of the following?

- (A) Chero dynasty
- (B) Oiniwar dynasty
- (C) Karnat dynasty
- (D) Pithipatis

Ans: C



Exp: The Karnat or Karnata dynasty was established in 1097 CE by Nanyadeva. The dynasty had two capitals: Simraungadh in Bara District of Nepal and Darbhanga, Bihar became the second capital during the reign of Gangadeva.

- They ruled over Mithila from 1097 to 1324-25 A.D.
- The kingdom controlled the present area of Tirhut or Mithila in Bihar. The Tirhut Division comprises six districts -- Muzaffarpur, West Champaran, East Champaran, Vaishali, Sitamarhi and Sheohar.
- This region is bounded by the Mahananda River in the east, the Ganges in the south, the Gandaki River in the west and by the Himalayas in the North.
- Hari Simha Deva was the sixth and the last descendant of Nanya Deva. Ghiyasuddin Tughlaq of Delhi Sultanate invaded Mithila region during the reign of Hari Simha Deva.
- Under the Karnatas, Mithila experienced a period of relative peace which favoured the authors, poets and artists to receive royal patronage.
- The Maithili language grew strongly during this period as new literature and folk songs were created.
- ❖ The philosopher, Gangesa Upadhyaya, introduced the Navya-Nyāya school of thought which remained active in India until the 18th century.
- The general religious attitude of the people was conservative and the priestly aristocracy of Maithil Brahmins dominated the royal court.
- The Varna Ratnakara of Jyotirishwar Thakur was also composed during the reign of Hari Simha Deva.

The Oinwar dynasty came after the Karnat dynasty and ruled the Mithila region between 1325 and 1526.

The Chero dynasty ruled some parts of Bihar from the 12th century to the 16th century after the fall of the Pala Empire. They established principalities in the Shahabad, Saran, Champaran, Muzaffarpur and Palamu.

The **Pithipatis of Bodh Gaya** (also known as the Pithis) were the rulers of the area around Bodh Gaya from roughly the **11th to 13th centuries** in the Magadha region Bihar. Pithi refers to the diamond throne where the Buddha was said to have gained enlightenment.

74. Which city served as the capital of the ancient kingdom of Magadha during the early Vedic period?

(A) Rajagriha

(B) Campa

(C) Vaishali

(D) Pataliputra

Ans: A

Exp: Rajagriha ("The city of Kings") is located 60 miles southeast of the present city of Patna.

- The modern town is situated close to the Rajgir hills while the valley is surrounded by seven hills: Vaibhara, Ratna, Saila, Sona, Udaya, Chhatha, and Vipula. River Panchane flows through the outskirts of the town.
- The city was also a terminal point in the Dakshinapatha, the trade route connecting the Gangetic plains to the Deccan.
- After the Mahaparinirvana of Buddha, the first Buddhist council was held at Rajgriha in 483 B.C, to compile and commemorate the teachings of Buddha.
- Rajgriha was first discovered by Alexander Cunningham, founder of the archaeological survey of India in the 19th century.

75. Which of the following statements about the Vernacular Press Act is/are correct?

- 1. It was enacted by Lord Lytton.
- 2. It came to be known as a 'Gagging Act'.
- 3. The Act was repealed by Lord Ripon.

Select the correct answer using the codes given below.

(A) Only 1 and 2

(B) Only 2 and 3

(C) Only 1

(D) 1, 2 and 3

Ans: D

Exp: The Vernacular Press Act (VPA) was passed in 1878 by Lord Lytton. It was designed to have 'better control' over the vernacular press and



effectively punish and repress "seditious writing" for "publications in oriental languages". The act had the following provisions:

- ❖ The district magistrate had the power to call upon the printer and publisher of any vernacular newspaper to enter into a bond with the government undertaking not to cause disaffection against the government or antipathy between persons of different religions, caste, race through published material.
- The printer and publisher were required to deposit security, which could be forfeited if the regulations were not followed and press equipment could be seized if the offense was committed the next time.
- The magistrate's action was final and no appeal could be made in a court of law.
- A vernacular newspaper could get exemption by submitting proofs to a government censor.
- The act came to be nicknamed "the gagging Act" as there was discrimination between English and vernacular press along with no right of appeal.

Under this act, charges were brought against Som-Prakash, Bharat-Mihir, Dacca-Prakash, and Samachar.

Later, the pre-censorship clause was repealed, and a press commissioner was appointed to supply authentic and accurate news to the press. The act was repealed by Lord Ripon in 1882.

76. Which of the following statements about Lord Mayo's Resolution of 1870 are correct?

- 1. It was the first step that bifurcated Central and Provincial finances.
- 2. Provincial Governments were empowered to administer certain services.
- 3. It attempted to rectify existing imparity.
- 4. It focused on the actual needs of the Provinces. Select the correct answer using the codes given below.
- (A) Only 1 and 2
- (B) Only 1, 3 and 4
- (C) Only 2, 3 and 4
- (D) 1, 2, 3 and 4

Ans: D

Exp: Richard Southwell Bourke 6th Earl of Mayo (Lord Mayo) was a statesman from Ireland who held the position of Viceroy of India from 1869 until his assassination in 1872 by Sher Ali Afridi at Port Blair, Andaman.

Mayo's Resolution of 1870 - Financial decentralization, was a legislative devolution inaugurated by the Indian Councils Act of 1861.

- 1. It was the first step that bifurcated Central and Provincial finances.
- 2. Under this resolution, apart from the annual grant from the imperial government, the provincial governments were authorized to **resort to local taxation** to balance their budgets.
- 3. This was done in the context of transfer of certain departments of administration, such as medical services, education, and roads, to the control of provincial governments.
- 4. The Resolution marked the **beginning of local finance**.
- 5. The various provincial governments such as in Bengal, Madras, North-Western Province, Punjab, passed municipal acts to implement the policy outlined.
- Mayo's Resolution emphasized, "Local interest, supervision and care are necessary for success in the management of the funds devoted to education, sanitation, medical relief and local public works."
- He founded the Mayo College at Ajmer in 1875 to provide education to young Indian Rajputs.
- He also set up the Statistical Survey of India and the First Census of India was conducted under his direction in 1871.
- The Indian Evidence Act was also passed in 1872 during his regime.

77. Nitisara, an early book of politics, was written by

- (A) Kautilya
- (B) Kamandaka
- (C) Charaka
- (D) None of them

Ans: B



Exp: Nitisara (or the Elements of Polity) is an ancient Indian treatise on politics and statecraft authored by Kamandaka, also known as Kamandaki or Kamandakiya, who was a disciple of Chanakya.

- It dates back to the 4th-3rd century BCE, though modern scholarship variously dates it to between the 3rd and 7th centuries CE between Gupta and Harsha period.
- **❖** It contains 19 sections, 20 sargas (chapters) and 36 prakarans (sections) and 1,192 verses (slokas).
- The work has been dedicated to Chandragupta of Pataliputra.
- ❖ It is based on the Arthasastra of Kautilya and deals with various social elements such as theories of social order, structure of the state, obligations of the ruler, governmental organization, principles and policies of the government, interstate relationships, ethics of envoys and spies, application of different political expedients, varieties of battle arrays, attitude towards morality, and so forth.

78. Futuhat-i-Alamgiri was written by

- (A) Ishwardas Nagar
- (B) Bhimsen
- (C) Haridas
- (D) None of them

Ans: A Exp:

- Futuhat-i-Alamgiri was written by Ishwardas Nagar.
- ❖ It is a contemporary account for nearly half a century (1657-1700). It is an important source of information for various developments during the reign of Aurangzeb.
- The book starts with the account of the war of succession between the four sons of Shah Jahan and the predominance of Aurangzeb, followed by accounts of Aurangzeb's exploits in keeping the empire under control and putting down riots and rebellions.
- Ishwardas worked under Qazi-ul-Quzat Shaikh-ul-Islam and Shujaet Khan, the subpar of Ahmedabad and was also responsible

for the reconciliation between the Mughals and the Rathors.

- 79. According to Chinese source, Meghavarman, the ruler of Sri Lanka, sent a missionary to which of the following Gupta Kings for permission to build a Buddhist temple at Gaya?
 - (A) Chandragupta I
 - (B) Samudragupta
 - (C) Chandragupta II
 - (D) None of them

Ans: B

Exp: According to a Chinese source, Meghavarman, the ruler of Sri Lanka, sent a missionary to Samudragupta in order to seek permission to build a Buddhist temple at Gaya. The permission was granted, and the temple was developed into a huge monastic establishment.

- 80. When was Bihar first separated from the Bengal Presidency under the British-ruled India?
 - (A) 1912
 - (B) 1936
 - (C) 1947
 - (D) None of the above

Ans: A

Exp: On December 12, 1911, during the 3rd Delhi Durbar, King George V declared that Bihar, Orissa and Chotanagpur be separated from Bengal, which was notified on March 22, 1912. Bihar finally figured as a separate state on India's map on April 1, 1912.

Therefore, March 22 is observed as Bihar Diwas or Bihar Day to commemorate Bihar's separation from the Bengal Presidency in 1912. It was first celebrated in 2010.

Later, in 1936, Bihar and Orissa were officially split into separate provinces, and Bihar emerged as an independent province within British India.

81. Consider the following statements:

1. Lake Victoria is the third largest freshwater lake in the world by surface area.



- 2. It is one of the great lakes of Africa.
- 3. It is bordered by four countries—Tanzania, Uganda, Rwanda and Kenya.
- 4. The only outflow from Lake Victoria is the Nile River, which exits the lake near Jinja, Uganda.

Which of the above statements are incorrect?

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

Ans: D Exp:

- ❖ Lake Victoria is the largest African Great Lake by area, the world's largest tropical lake, and the second largest freshwater body in the world by surface area.
- Lake Victoria was formed about 400,000 years ago, and lies 1,134 m above sea level.
- ❖ It has a surface area of 68,800 km², an average depth of 40 m, a maximum depth of 80 m, a volume of 2,760 km³, and a basin area of 195,000 km².
- ❖ The shoreline is shared by Kenya (6%), Uganda (43%), and Tanzania (51%). It is not bordered by Rwanda.
- The Kagera, Katonga, Sio, Yala, Nyando, Sondu Miriu, and Mara rivers feed the lake and the River Nile carries water out of the lake.

82. Consider the following statements regarding 'heat wave':

- 1. Heat wave is considered if the maximum temperature of a station reaches at least 30 °C or more for plains.
- 2. Heat wave is considered if the maximum temperature of a station reaches at least 40 °C or more for hilly regions.

Which of the above statements is/are correct?

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

Ans: D

Exp: Heat Wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India.

Heat Waves typically occur between March and June, and in some rare cases even extend till July. The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.

The Indian Meteorological Department (IMD) has given the following criteria for Heat Waves:

- Heat waves need not be considered till the maximum temperature of a station reaches at least 40°C for Plains and at least 30°C for Hilly regions.
- Based on Departure from Normal
 - 1. Heat Wave: Departure from normal is 4.5°C to 6.4°C.
 - 2. Severe Heat Wave: Departure from normal is >6.4°C.
- Based on Actual Maximum Temperature
 - 1. Heat Wave: When actual maximum temperature ≥ 45°C
 - 2. Severe Heat Wave: When actual maximum temperature ≥ 47°C
- If above criteria is met at least in 2 stations of a Meteorological subdivision, for at least two consecutive days, then it is declared on the second day.

83. Match List-I with List-II:

Match List-1 with List-1	1 •
List-I	List-II
(Explorer)	(Birthplace)
a. Christopher Columbus	1. Portugal
b. Jacques Cartier	2. United Kingdom
c. Sir Francis Drake	3. Italy
d. Ferdinand Magellan	4. France
Select the correct answer	using the codes given
below.	
(A) a b	c d

(A)	a	ь	c	d
,	3	4	2	1
(B)	a	b	c	d
	1	2	4	3
(C)	a	b	c	d
	3	4	1	2
(D)	a	b	c	d
	1	4	2	3



Ans: A Exp:

- The explorer Christopher Columbus made four trips across the Atlantic Ocean from Spain: in 1492, 1493, 1498 and 1502. He was determined to find a direct water route west from Europe to Asia, but he never did. Instead, he stumbled upon the Americas.
- ❖ Jacques Cartier (31 December 1491 1 September 1557) was a French-Breton maritime explorer for France. Jacques Cartier was the first European to describe and map the Gulf of Saint Lawrence and the shores of the Saint Lawrence River, which he named "The Country of Canadas" after the Iroquoian names for the two big settlements he saw at Stadacona (Quebec City) and at Hochelaga (Montreal Island).
- ❖ Sir Francis Drake was an English explorer and privateer best known for his circumnavigation of the world in a single expedition between 1577 and 1580. This was the first English circumnavigation, and third circumnavigation overall.
- ❖ Ferdinand Magellan (c. 1480 27 April 1521) was a Portuguese explorer best known for having planned and led the 1519 Spanish expedition to the East Indies across the Pacific Ocean to open a maritime trade route, during which he discovered the inter-oceanic passage (thereafter bearing his name) and achieved the first European navigation to Asia via the Pacific. The Strait of Magellan is a channel linking the Atlantic and Pacific oceans, between the mainland tip of South America and Tierra del Fuego island.

84. The emirates of UAE are:

- (A) Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al-Quwain, Fujairah, Ras Al-Khaimah
- (B) Dubai, Sharjah, Ajman, Jeddah, Kuwait, Bahrain, Umm Al-Quwain
- (C) Umm Al-Quwain, Fujairah, Ras Al-Khaimah, Riyadh, Dammam, Taif, Dubai
- (D) Sharjah, Abu Dhabi, Ajman, Fujairah, Dubai, Bahrain, Kuwait

Ans: A

Exp: The United Arab Emirates, sometimes simply called the Emirates or UAE, is a federation of seven emirates (states): Abu Dhabi, Dubai, Sharjah, Ras Al Khaimah, Ajman, Umm Al Quwain, and Fujairah.

- Border countries are Oman and Saudi Arabia; the UAE shares maritime borders with Iran and Qatar.
- The capital city is Abu Dhabi, and the country's largest city is Dubai.

85. The river Subarnarekha originates near which of the following villages?

- (A) Ormanjhi
- (B) Mandar
- (C) Hehal
- (D) Nagri

Ans: D

Exp: The Subarnarekha is one of the longest east flowing inter-state rivers. It originates near Nagri village in Ranchi district of Jharkhand at an elevation of 600 m.

- The total length of the river is about 395 km. It joins the Bay of Bengal near Talsari.
- The principal tributaries of the river are Kanchi, Kharkai and Karkari.
- It creates the famous Hundru Falls in Ranchi which falls from a height of 98 meters (322 ft).
- It is bounded on the North-West by the Chota Nagpur Plateau, in the South-West by Brahmani basin, in the South by Burhabalang basin and in the South-East by the Bay of Bengal.
- Its basin extends over States of Jharkhand, Odisha and comparatively smaller part in West Bengal having a total catchment area of 29,196 Sq.km.

86. Which of the following National Parks/Wildlife Sanctuaries are in Bihar?

- 1. Valmiki National Park
- 2. Dudhwa National Park
- 3. Gajner Wildlife Sanctuary
- 4. Bhimbandh Wildlife Sanctuary

Select the correct answer using the codes given below.

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

Ans: A

Exp: Valmiki National Park is a tiger reserve situated in the **West Champaran District** of Bihar, India.

- ❖ It is situated in the Gangetic Plains biogeographic zone of the country and forms the easternmost limit of the Himalayan Terai forests in India.
- The National Park and the Wildlife Sanctuary together comprise the tiger reserve. In 1978, it was designated as a Wildlife Sanctuary and in 1990, Valmiki National Park was established.
- **!** It is the only national park in Bihar.
- ❖ It covers 898.45 km2 (346.89 sq mi), which is 17.4% of the total geographical area of the district.
- ❖ It is the **18th Tiger Reserve** of the country. According to a report of the NTCA, the tiger population in the Valmiki reserve has increased from 31 in 2018 to **54** in 2022.
- In the north, the protected areas are bordered by Nepal's Chitwan National Park while the Indian state Uttar Pradesh bounds the sanctuary from western side.
- Rivers Gandak, Pandai, Manor, Harha, Masan and Bhapsa flow through various parts of the reserve.

87. Consider the following statements regarding the 'Gangetic Dolphin':

- 1. The Gangetic River Dolphin has been categorized as 'endangered' under the IUCN's Red List.
- 2. It does not have a crystalline eye lens rendering it effectively blind.
- 3. Navigation and hunting are carried out using echolocation.
- 4. It has been recognized as India's National Aquatic Animal.

Which of the above statements are correct?

- (A) Only 1, 2 and 4
- (B) Only 2, 3 and 4
- (C) Only 1, 3 and 4
- (D) All of the above

Ans: D

- **Exp:** Dolphins are one of the oldest creatures in the world along with some species of turtles, crocodiles and sharks.
 - The Ganges river dolphin was officially discovered in 1801.
 - It has been recognized as the National Aquatic Animal in 2009, by the Government of India.
 - The Ganges river dolphin is known as the "Tiger of the Ganges" for its role played as a top predator, and also because it is an ecosystem indicator species much like a tiger in the forest.

Characteristics, Habitat and Behaviour

- The species are restricted to disjunct stretches in India's Ganga-Brahmaputra-Barak river system, Nepal's Karnali, Sapta Koshi and Narayani river systems, and Bangladesh's Meghna, Karnaphuli and Sangu river systems.
- The Ganges river dolphin can only live in freshwater and is essentially blind because it does not have a crystalline eye lens.
- Navigation and hunting are carried out by using **echolocation** in which they emit ultrasonic sounds, which bounces off of fish and other prey, enabling them to "see" an image in their mind.
- They are **frequently found alone or in small groups**; generally, a mother and calf travel together.
- Because of the sound it produces while breathing, the animal is popularly referred to as 'Susu'.

Conservation Status:

- ❖ Indian Wildlife (Protection), Act 1972: Schedule I.
- International Union for the Conservation of Nature (IUCN): Endangered.
- Convention on International Trade in Endangered Species (CITES): Appendix I (most endangered).
- Convention on Migratory Species (CMS): Appendix II (migratory species that need conservation and management or would



significantly benefit from international cooperation).

88. The other name of river Gandak is:

- (A) Burhi Gandak
- (B) Mahananda
- (C) Narayani
- (D) Punpun

Ans: C

- Exp: Gandak is one of the major rivers in Nepal and India. It is also known as the Kali Gandaki and Narayani after the confluence with Trisuli river in Nepal.
 - ❖ Origin: It rises at 7620 m in the north of Dhaulagiri in Tibet near the Nepal border. The river stretches over a length of 630 kilometers, with 445 kilometers running through India and 185 kilometers in Nepal.
 - Drainage Basin: The Gandak River has a total drainage basin area of 29,705 square kilometers.
 - 1. The river flows through the Indian states of Bihar and Uttar Pradesh, and joins the Ganges near Patna just downstream of Hajipur.
 - Tributaries: It is a north bank tributary of the Ganga in India.
 - Major tributaries of the Gandak River include the Mayangadi, Bari, Trisuli, Panchand, Sarhad, Budhi Gandak.
 - The largest hydroelectricity project in Nepal is located along the stretch of this river.
 - Valmiki National Park and Tiger Reserve in Bihar, is located on the banks of this river.

89. Gold is found in which of the following districts of Bihar?

(A) Munger

(B) Saran

(C) Siwan

(D) Jamui

Ans: D

Exp: The Jamui district was formed on 21 February 1991, when it was separated from Munger district. It is located at a longitude of 86° 13'E and the latitude is 24° 55'N.

The sono area of Jamui district contains gold.

90. The Triveni Canal has been constructed on which of the following rivers?

(A) Kosi

(B) Sone

(C) Gandak

(D) Mayurakshi

Ans: C

Exp: The Triveni canal is built on Gandak river. Under this project, a 740 m long barrage has been built on Gandak river near Triveni Ghat. It covers districts like Champaran, Saran, Chhapra, Muzaffarpur, Darbhanga, Siwan and Vaishali.

91. Assertion (A): Rich placer deposits of gold are found on the Ghana coast and gold-bearing veins are found in Brazil.

Reason (R): At some points of time, these continents were joined together along the Atlantic coast.

Select the correct answer.

- (A) Both A and R are true and R is the correct explanation of A
- (B) Both A and R are true but R is not the correct explanation of A
- (C) A is false but R is true
 - (D) A is true but R is false

Ans: A

Exp: The above statements are evidence to support the continental drift theory.

The Continental Drift Theory was proposed by Alfred Wegener—a German meteorologist in 1912. This was regarding the distribution of the oceans and the continents.

- According to Wegener, all the continents formed a single continental mass and the mega ocean surrounded the same.
- The super continent was named PANGAEA, which meant all earth.
- The mega-ocean was called **PANTHALASSA**, meaning all water.
- He argued that, around 200 million years ago, the supercontinent, Pangaea, began to split.
- Pangaea first broke into two large continental masses as Laurasia and Gondwanaland forming the northern and southern components respectively.

- Subsequently, Laurasia and Gondwanaland continued to break into various smaller continents that exist today.
- A variety of evidence was offered in support of the continental drift. One among them is stated in the question such as
 - 1. The Matching of Continents (Jig-Saw-Fit): The shorelines of Africa and South America facing each other have a remarkable and unmistakable match. It may be noted that a map produced using a computer programme to find the best fit of the Atlantic margin was presented by Bullard in 1964. It proved to be quite perfect. The match was tried at 1,000- fathom line instead of the present shoreline.
 - 2. Placer deposits: There is an occurrence of rich placer deposits of gold in the Ghana coast without any source rock. On the other hand there are gold bearing veins in Brazil and it is believed that the gold deposits of Ghana are derived from the Brazil plateau when the two continents lay side by side along the Atlantic coast.

92. Bihar's geographical structure consists of rock systems. Match the rock systems with their descriptions:

a.	Dharwar rock system	1.	Created by the rapid deposition of alluvium by Himalayan and Peninsular rivers
b.	Vindhyan rock system	2.	Can be found in the West Champaran district
c.	Quaternary rock system	3.	Part of the oldest Archaean rock system
d.	Tertiary rock system	4.	Sandstone, limestone, dolomite, quartzite and shale are the main constituents of this rock system

Select the correct answer using the codes given below.

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

Ans: A

Exp: The earliest phase of tectonic evolution was marked by the cooling and solidification of the upper crust of the earth's surface in the Archaean era (prior to 2.5 billion years; Precambrian Period) which is represented by the exposure of gneisses and granites, especially on the Peninsula. These form the core of the Indian Craton (Block of Indian Subcontinent of Gondwanaland). The Archaean group of rocks consists of two systems-

- (a) Achaean System: oldest rocks on the earth's crust and are devoid of any form of remnants of life in them. They are called Purana Rocks meaning the oldest rocks in India.
- Examples include the Aravallis mountains, 2/3rd of the Deccan peninsula and some parts of north east.
- These rocks have abundant metallic and non-metallic minerals such as iron, copper, manganese, bauxite, lead, zinc, gold, silver, tin, tungsten, mica, asbestos, graphite, etc.
- (b) The Dharwar system (4-1 billion years)
- ❖ Later than the Archean system but older than the other systems.
- It is the first metamorphic sedimentary rock in India.
- They are named the Dharwar system because they were first studied in the Dharwar region of Karnataka. But they are also found in Aravallis, Tamil Nadu, Chotanagpur plateau, Meghalaya, Delhi, and the Himalayas region.
- These rocks are rich in iron ore, manganese, lead, zinc, gold, silver etc.
- The Champions series containing gold mines lie within this system. This Champion system is named after the Champion reef in the Kolar



Gold Fields. The Kolar Gold Fields contain one of the deepest gold mines of the world.

Purana Rock System (1400 – 600 Million Years)

Includes two divisions: the Cuddapah System and the Vindhyan System.

Cuddapah System

- Unfossiliferous clay, slates, sandstones and limestones was deposited in synclinal basins [depression between two folds {Fold mountain}].
- Outcrops are best observed in Cuddapah district of Andhra Pradesh.
- These rocks contain ores of iron, manganese, copper, cobalt, nickel, etc.
- They contain large deposits of cement grade limestones.

Vindhyan System (1300-600 million years)

- This system derives its name from the great Vindhya mountains.
- The system comprises ancient sedimentary rocks (4000 m thick) superimposed on the Archaean base.
- * These are mostly Unfossiliferous.
- **❖** The Deccan trap has a significant part of this belt covered.
- The Vindhyan system has diamond bearing regions from which Panna and Golconda diamonds have been mined.
- It is devoid of metalliferous minerals but provides large quantities of durable stones, ornamental stones, limestone, pure glass making sand etc.
- ***** Except for its absence in Bundelkhand region, it is found in a stretch extending between Sasaram (Rohtas) in Bihar to Chittorgarh in Rajasthan.

Rocks of the Tertiary System

The Cenozoic era has two periods' viz. tertiary and quaternary.

The Tertiary rock system is one of the most important periods because the formation of Himalayas took place during this time and India took its present form. These rocks were

- formed from the Eocene to Pliocene, about 60 to 70 million years ago.
- The most important rocks of this system are in northern plains of India, karewas of Kashmir and bhadarwah, Bhangar, and Khadar of the Great Plains.
- The terraces of Jhelum, Narmada, Tapti, Godavari, Krishna, Kaveri, etc. are of this period.
- The rocks of this system are also found on the coast of Kachchh, Kathiawar, Konkan, Malabar, Nilgiri, and the Eastern Ghats.
- Tertiary Rock System in Bihar is found in the Upper North-Western parts of Bihar or the Terai Region of Shivalik Ranges in Western Champaran districts (Bihar).

Rocks of the Quaternary System

- Quaternary is the name given to the most recent formations, which contains fossils of species with living representatives. This age has been divided into 4 glacial and interglacial periods.
- Important deposits during this period include Karewas of Kashmir, alluvial deposits in the valleys of Tapi, Godavari and Krishna, and extensive deposits of the Indo Gangetic alluviums.
- ❖ It is also found between Himalayan Terai Region of Bihar in the North and Chota Nagpur plateau region in the south
- 93. Which one of the following is the world's richest region from a marine biodiversity perspective, comprising twenty-one islands with estuaries, beaches, forests of the near shore environment, sea grasses, coral reefs, salt marshes and mangroves?
 - (A) Gulf of Mannar Biosphere Reserve
 - (B) Nanda Devi Biosphere Reserve
 - (C) Sunderbans Biosphere Reserve
 - (D) Nilgiri Biosphere Reserve

Ans: A

Exp: Located at the south-eastern tip of Tamil Nadu, India, the Gulf of Mannar Marine Biosphere Reserve is the first Marine Biosphere Reserve in South and South-East Asia.



- Comprising 21 islands in total, the Mannar marine park includes estuaries, beaches and mudflats that make this region amazingly beautiful.
- Also a part of this biosphere are marine components including algae communities, sea grasses, coral reefs, salt marshes and mangroves.
- ❖ The extent of the reserve is 10,500 sq.km with the core area covering 560 km. The biosphere covers the coasts of Thoothukudi, Tirunelveli, Rameswaram and Kanyakumari.
- The Gulf's 4,223 species of plants and animals representing from primitive to higher forms make it one of the richest coastal regions in India.
- Most of the islands have luxuriant growth of mangroves on their shorelines and swampy regions. The sea bottom of the inshore area around the islands are carpeted with seagrass beds which serve as ideal feeding ground for Dugong dugon, the largest endangered marine mammal. This area is also the last refuge of an invertebrate, the unique 'living fossil' Balanoglossus that links vertebrates and invertebrates.
- Highly productive fringing and patch coral reefs surround the islands and are often referred to as underwater tropical rainforest and treasure house for marine biodiversity, in particular marine ornamental fishes.
- The famous pilgrim center, Rameswaram, which finds place in the epic Ramayana (one of the great epics of India) is situated in the gulf on the island of Pamban. The region receives about 1.4 million pilgrims yearly.
- There are about 47 villages along the coastal part of the biosphere reserve. The inhabitants are mainly Marakeyars, local people principally engaged in fisheries.
- 94. What is the local time of Thimphu (Bhutan) located at 90° East longitude when the time at Greenwich (0°) is 12:00 noon?

(A) 6:00 p.m.

(B) 4:00 p.m.

(C) 7:00 p.m.

(D) 6:00 a.m.

Ans: A

Exp: The time increases at a rate of 4 minutes per one degree of longitude, east of the Prime Meridian.

Difference between Greenwich and Thimpu = 90° of longitudes

Total Time difference = $90 \times 4 = 360$ minutes

= 360/60 hours

= 6 hours

Local time in Thimpu is 6 hours more than that at Greenwich, i.e. 6.00 p.m.

95. Which of the following statements is correct?

- (A) Natural gas is found in Dharwar rock formation.
- (B) Mica is found in Koderma.
- (C) Cuddapah series is famous for diamonds.
- (D) Petroleum reserves are found in Aravalli hills

Ans: B

Exp:

- * Dharwar rocks are highly metamorphosed sedimentary rock-systems. [formed due to metamorphosis of sediments of Archaean gneisses and schists]. They are the oldest metamorphosed rocks.
 - 1. These are found in abundance in the **Dharwar district of Karnataka**.
 - 2. Economically these are the most important rocks because they possess valuable minerals like high-grade iron-ore, manganese, copper, lead, gold, etc.
 - 3. Dharwar Rocks and Aravalli hills belong to the Archean period in which gas or oil is not found.
- Koderma is one of the districts of Jharkhand which is blessed with abundant natural resources and rich mineral deposits throughout the district.
 - Earlier it was famous for production of world class mica and was known as the Mica Capital of India or Abrakh-Nagri.
 - 2. The district has been famous worldwide for mica mining, especially for **ruby** mica. The district had the monopoly

in producing mica for years and the mica was exported to many countries worldwide.

- 3. The main reserve of mica is found under the forest of wild life sanctuary of Koderma.
- Named after the **Cuddapah** district of Andhra Pradesh, the Cuddapah rocks were formed when sedimentary rocks like sandstone, limestone etc., and clay were deposited in synclinal folds (between two mountain ranges).
 - 1. These rocks contain ores of iron. manganese, copper, cobalt, nickel and large deposits of cement grade limestones.
 - 2. The Cuddapah series is not famous for diamonds. Diamond is found in Panna and Golkunda which are not part of Cuddapah.
- How many latitudes are there on the globe drawn at 1 degree interval?

(A) 180

(B) 178

(C) 179

(D) None of the above

Ans: C Exp:

- The latitude of a place on the earth's surface is its distance north or south of the equator, measured along the meridian of that place as an angle from the center of the earth. Lines joining places with the same latitudes are called parallels.
- \diamond The value of the equator is 0° and the latitude of the poles are 90°N and 90°S.
- If parallels of latitude are drawn at an interval of one degree, there will be 89 parallels in the northern and the southern hemispheres each. The total number of parallels thus drawn, including the equator, will be 179. The North Pole and South Pole are points on the globe and are not drawn as latitudes.
- Depending upon the location of a feature or a place north or south of the equator, the letter N or S is written along with the value of the latitude.

97. The average height of the Kosi plain from mean sea level is

(A) 300 m

(B) 150 m

(C) 30 m

(D) None of the above

Ans: C

Exp:

FOR TARKASH-2ND EDITION

- The Kosi is a trans-boundary river which flows through Tibet, Nepal and India. It originates in Tibet.
- In Nepal, it is known as Saptakoshi—sapta in Sanskrit means seven-because it is formed by the merging of seven rivers.
- It enters India from Birpur, (Supaul, Bihar) via Bhim Nagar in Nepal.
- It joins the Ganga river near Kursela, Katihar.
- ❖ Its total length is 929 km, out of which about 260 km falls in Bihar.
- It is also known as the "Sorrow of Bihar" as the annual floods affect about 21,000 sq. km. of fertile agricultural lands thereby disturbing the rural economy.

The Kosi plain is a triangular plain with apex at Birpur (54M) on the Nepal border. The base from Khagaria (36M) to Kursela (25M) runs parallel to river Ganga. The upper plain (below 50M) has a small area. The middle plain (Saharsa, Supaul, Madhepura) is below 40M. The lower plain with about 60% area is around 25M. Hence the average height is 30 meters above sea level.

98. On which plateau, the Tropic of Cancer and the Indian Standard Time Line intersect each other?

(A) Bundelkhand

(B) Baghelkhand

(C) Malwa

(D) None of the above

Ans: B

Exp:

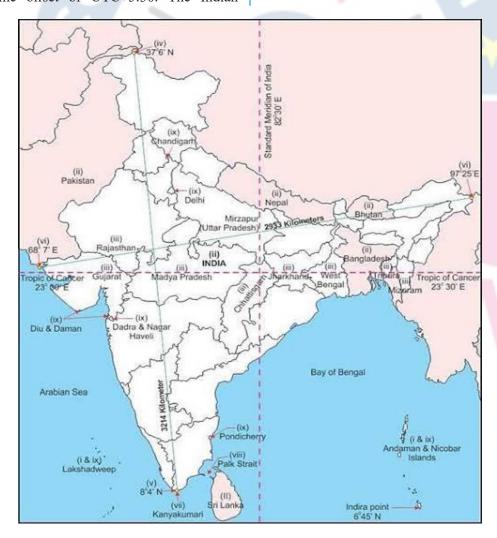
- The Tropic of Cancer is a line of latitude circling the Earth at approximately 23.5° **north** of the equator.
 - 1. It is one of the five major degree measures or circles of latitude dividing the Earth (the others are the Tropic of Capricorn,



- the equator, the Arctic Circle and the Antarctic Circle.
- 2. The Tropic of Cancer is significant because it is the northernmost point where the sun's rays are directly overhead, and it marks the northern boundary of tropics, which is the region that extends from the equator in the north upto the Tropic of Cancer and from the equator in the south upto the Tropic of Capricorn.
- 3. The Tropic of Cancer passes through 17 countries including India and it passes through 8 states in India: Gujarat, Rajasthan, Madhya Pradesh, Chattisgarh, Jharkhand, West Bengal, Tripura, and Mizoram.
- ❖ The Indian Standard Time(IST) represents the time observed throughout India, with a time offset of UTC+5:30. The Indian

- Standard Time is calculated on the basis of 82.5° E longitude, just west of the town of Mirzapur, near Allahabad in the state of Uttar Pradesh.
- 1. The standard meridian of India (82°30'E.) passes through five states in India which are Orissa, Chattisgarh, Uttar Pradesh, Andhra Pradesh, and Madhya Pradesh.

The Tropic of cancer and IST meridian intersect at Koriya district in Chhattisgarh i.e in the Baghelkhand region. Baghelkhand is a region and also a mountain range in central India that covers the northeastern regions of Madhya Pradesh and a small area of southeastern Uttar Pradesh. It is surrounded by the Indo-Gangetic plains in the north and east, Bundelkhand in the west and the Vindhya range in the south. Bundelkhand lies north of the Tropic of Cancer and Malwa is situated west of the dateline.





99. Which district of Uttarakhand is not situated along the Tibet boundary?

- (A) Uttarkashi
- (B) Chamoli
- (C) Almora
- (D) None of the above

Ans: C

Exp: Uttarakhand was carved out of Uttar Pradesh on 9
November 2000, and became the 27th state of the
Republic of India. The state is divided into two
administrative divisions namely Kumaon and
Garhwal. Kumaon has 6 districts and Garhwal
has 7. Uttarakhand has 13 districts.

- Kumaon division districts: Almora, Nainital, Pithoragarh, Udham Singh Nagar, Bhageshwar, Champawat.
- Garhwal division districts: Dehradun, Haridwar, Chamoli, Rudraprayag, Terri Garhwal, Uttarkashi, Patrick Garhwal.
- The districts that border Tibet are Chamoli, Pithoragarh and Uttarkashi.

100. Where does the El Niño current flow?

- (A) The Pacific Ocean
- (B) The Indian Ocean
- (C) The Bay of Bengal
- (D) More than one of the above

Ans: A

- Exp: El Nino current flow is confined to the Pacific ocean area and along the Peru coast in the Eastern Pacific even though its effect is widespread including India. Since question is about its current flow only, hence the correct answer is option (A).
 - ❖ EI-Nino is a complex weather system that appears once every three to seven years, in which the cold Peruvian current is replaced by warm ocean currents near the Peruvian Coast in the Eastern Pacific Ocean. This current increases the temperature of water on the Peruvian coast by 10°C.
 - The word EI-Nino means 'Child Christ' because this current appears around Christmas in December (December

- is a summer month in Peru (Southern Hemisphere))
- In an El nino year, severe droughts occur in Australia, Indonesia, India and southern Africa.

101. Consider the following statements about the collegium system:

- 1. The Supreme Court collegium is a fivemember body, which is headed by the incumbent Chief Justice of India (CJI) and comprises four other senior most Judges of the Court at that time.
- 2. The Parliament by law has evolved the collegium system.
- 3. The Judges of the Supreme Court and High Courts are appointed only through the collegium system.
- 4. The collegium system was introduced in the year 1993 by Justice P. N. Bhagwati in the landmark First Judges Case.

Which of the above statements is/are correct?

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

Ans: D

Exp: The Collegium system is a system for the appointment and transfer of judges in the Supreme Court and High Court. It is through this system only that the Judges of the Supreme Court and High Courts are appointed.

- Under the system, the Chief Justice of India (CJI), along with four senior-most Supreme Court judges, recommends the appointment and transfer of judges.
- This system is not rooted in the Constitution and neither has it evolved through a law by the Parliament. Infact, it has evolved through judgments of the Supreme Court.
- ❖ A High Court collegium is led by its Chief Justice and four other senior most judges of that court. Names recommended for



appointment by a HC collegium reaches the government only after approval by the CJI and the SC collegium.

Since the adoption of the Constitution in 1950 and up till the year 1973, a convention was followed in which the senior-most judge of the Supreme Court was to be appointed as the Chief Justice of India.

- This convention was however violated for the first time in 1973, when A.N.Ray was appointed as the Chief Justice of India. This violated the convention because Justice A.N.Ray superseded three other Supreme Court judges senior to him.
- Again in 1977, another chief justice was appointed who superseded his seniors.

This resulted in a clash between the Executive and the Judiciary which led to a series of Supreme Court Judgements and led to the evolution of the collegium system. Thus, the collegium system evolved out of a series of judgments of the Supreme Court that are called the "Judges Cases".

- ❖ S P Gupta Vs Union of India, 1981 (First Judge Case): The Supreme Court held that the term "consultation" used in Articles 124 and 217 did not mean "concurrence" − therefore, although the President will consult the Supreme Court, his decision was not bound to be in concurrence with them.
- Association Vs Union of India, 1993 (Second Judge Case): The Supreme Court reversed its previous judgment and altered the definition of consultation to mean concurrence. It was decided that the advice tendered by the CJI in regard to the appointment of judges to the Supreme Court is binding on the President. Further, the CJI is required to consult with two of his most senior colleagues before tendering such advice.
- ❖ Third Judge Case,1998: Supreme court stated that the consultation process to be adopted by the CJI requires 'consultation of plurality judges'. The CJI should consult

a collegium of four senior most judges of the Supreme Court. Even if 2 of the judges are against the opinion, the CJI will not recommend it to the government.

102. Consider the following statements regarding the 42nd Amendment to the Constitution of India:

- 1. It added three words to the Preamble—
 'Socialist', 'Secular' and 'Integrity'.
- 2. It added eight Fundamental Duties to the Constitution.
- 3. It added new Directive Principles, i.e., Article 39A, Article 43A and Article 47.
- 4. It granted power to the President, in consultation with the Election Commission, to disqualify members of the State Legislatures.

Which of the above statements are incorrect?

(A) 1 and 2

(B) 3 and 4

(C) 2 and 3

(D) 1 and 4

Ans: C

Exp: The 42nd Amendment Act, 1976 is often referred to as the "Mini Constitution" as this amendment made extensive changes to the Constitution of India. These changes were based on the recommendations of the Swaran Singh Committee, which was established by the then Prime Minister Mrs. Indira Gandhi.

Notable changes brought about by this amendment are:

- * Preamble: The addition of the words "socialist" and "secular." Changing the phrase "unity of the nation" to "unity and integrity of the nation."
- ❖ Directive Principles of State Policy (DPSP): Articles 39A, 43A and 48A were added to the Directive Principles of State Policy by this Amendment Act and changes were made to Article 39(f).
 - Article 39A: To promote equal justice and to provide free legal aid to the poor.



- Article 43A: To take steps to secure the participation of workers in the management of industries.
- Article 48A: To protect and improve the environment and to safeguard forests and wildlife.

Fundamental Duties

- Added a new Part, namely **Part IV A**, to the Constitution.
- This Part which consists of only one article Article 51A enlisted 10 Fundamental Duties.
- One more Fundamental Duty was added by the 86th Constitutional Amendment Act, 2002 making it a total of 11 Fundamental Duties presently.

Seventh Schedule

 Education, Forests, Protection of wild animals and birds, Weights and Measures, and Administration of justice, constitution, and organization of all courts except the Supreme Court and the High Courts were all moved from the State list to the Concurrent list.

Parliament

- By the Amendment Act, the President was obligated to follow the cabinet's advice.
- It granted power to the President, in consultation with the Election Commission, to disqualify members of the State Legislatures.
- Empowered the Centre to deploy armed forces in the states to deal with law-andorder conflicts.
- Quorum requirements in the Parliament and state legislatures were abolished.
- The Parliament was given the authority to decide on the rights and privileges of its members and committees regularly.
- The Lok Sabha and State legislative assemblies now had a six-year term instead of five.

Emergency

- As per the changes made in Article 352 by this Amendment Act, a proclamation of national emergency may be applicable to the entire country or only a part of it.
- This Amendment Act extended the onetime duration of the President's rule in a State from six months to one year.

Judiciary

- Curtailed the power of judicial review and writ jurisdiction of the Supreme Court and high courts.
- Provided for the creation of the All-India Judicial Service.

Part XIV-A of the COI

- Articles 323A and 323B were added dealing with the tribunals for administrative matters and tribunals for other matters respectively.
- Froze the seats in the Lok Sabha and state legislative assemblies on the basis of 1971 census till 2001.
- Provided that the laws made for the implementation of Directive Principles cannot be declared invalid by the courts on the ground of violation of some Fundamental Rights.
- Empowered the Parliament to make laws to deal with anti-national activities and such laws are to take precedence over Fundamental Rights
- Shortened the procedure for disciplinary action by taking away the right of a civil servant to make representation at the second stage after the inquiry (i.e., on the penalty proposed).

Hence statements 2 and 3 are incorrect.

103. The specifications required for a community to be declared as a Scheduled Tribe are

- 1. indications of primitive traits
- 2. distinctive culture

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- 3. shyness of contact with the community at large
- 4. backwardness and geographical isolation Which of the above are correct?
- (A) Only 1 and 2
- (B) Only 2, 3 and 4
- (C) Only 1, 3 and 4
- (D) All of the above

Ans: D

- Exp: The term 'Scheduled Tribes' first appeared in the Constitution of India. The tribal communities in India have been recognized by the Indian Constitution under 'Schedule 5' of the constitution. Hence the tribes recognized by the Constitution are known as 'Scheduled Tribes'.
 - Article 366 (25) defined scheduled tribes as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this constitution.
 - Article 342, simply, prescribes procedure to be followed in the matter of specification of scheduled tribes.

The Constitution does not define the criteria for recognition of Scheduled Tribes and hence the definition contained in 1931 Census was used in the initial years after independence

The 1931 Census defines Schedule tribes as "backward tribes" living in the "Excluded" and "Partially Excluded" areas.

Against this backdrop, the Government of India set up an Advisory Committee on the Revision of Lists of Scheduled Castes and Scheduled Tribes, also known as Lokur Committee, in 1965.

The criteria presently followed for specification of a community as a Scheduled Tribe, set out by the Lokur Committee is as follows:

- indications of primitive traits
- distinctive culture
- geographical isolation

- shyness of contact with the community at large
- backwardness

BCW Bits:

Process of Inclusion in the ST List

- The process to include tribes in the ST list begins with the recommendation from the respective State governments, which are then sent to the Tribal Affairs Ministry, which reviews and sends them to the Registrar General of India for approval.
- This is followed by the National Commission for Scheduled Tribes' approval before the list is sent to the Cabinet for a final decision.

Particularly Vulnerable Tribal Groups (PVTGs)

- The Dhebar Commission (1973) created a separate category "Primitive Tribal Groups (PTGs)" which was renamed in 2006 as "Particularly Vulnerable Tribal Groups (PVTGs).
- PVTGs are more vulnerable among the tribal groups. 75 tribal groups have been categorized by the Ministry of Home Affairs as Particularly Vulnerable Tribal Groups (PVTG)s.
- 104. From which country, the Indian Constitution has taken reference for the idea of Fundamental Rights?
 - (A) Ireland
 - (B) United States of America
 - (C) United Kingdom
 - (D) Canada

Ans: B

Exp: The Fundamental Rights enshrined in Part III of the Indian Constitution, from Articles 12 to 35, is largely inspired from the Constitution of USA (i.e. Bill of Rights).

Often referred to as the Magna Carta of the Indian Constitution, the Fundamental Rights are meant for promoting the ideal of political democracy.

Borrowed features of the Indian Constitution:

Sources	Borrowed Features of Indian Constitution		
Government of India Act 1935	Federal Scheme, Office of governor, Judiciary, Public Service Commissions, Emergency provisions and administrative details.		
British Constitution	Parliamentary government, Rule of Law, legislative procedure, single citizenship, cabinet system, prerogative writs, parliamentary privileges and bicameralism.		
US Constitution	Fundamental Rights, independence of judiciary, judicial review, impeachment of the president, removal of Supreme Court and high court judges and post of vice president		
Canadian Constitution Federation with a strong Centre, vesting of residuary powers in Cenadvisory jurisdiction of the Supreme Court			
Irish Constitution Directive Principles of State Policy, nomination of members to Rajy and method of election of president			
Australian Constitution	Concurrent list, freedom of trade, commerce and intercourse, and joint sitting of the two Houses of Parliament		
Weimar Constitution of Germany	Suspension of Fundamental Rights during emergency		
Soviet Constitution (USSR, now Russia) Fundamental Duties and the ideal of justice (social, economic and polition the Preamble.			
French Constitution	Republic and the ideals of liberty, equality and fraternity in the Preamble.		
South African Constitution	Procedure for amendment of the Constitution and election of members of Rajya Sabha.		
Japanese Constitution	Procedure established by law		

105. Untouchability is abolished by which Article of the Indian Constitution?

(A) Article 14

(B) Article 15

(C) Article 17

(D) Article 22

Ans: C

Exp: Article 17 abolishes 'untouchability' and forbids its practice in any form.

- The term 'untouchability' has not been defined either in the Constitution or in the Protection of Civil Rights Act, 1955.
- However, the Mysore High Court in one of its judgements confirmed its meaning. It alludes to the social limitations placed on certain classes of people as a result of their birth into particular castes.
- The Supreme Court held that the right under Article 17 is available against private individuals and it is the constitutional

- obligation of the State to take necessary action to ensure that this right is not violated.
- The enforcement of any disability arising out of untouchability shall be an offense punishable in accordance with law.
- ❖ A person convicted of the offense of 'untouchability' is disqualified for election to the Parliament or state legislature.

The acts of offenses include:

- Either directly or figuratively promoting untouchability.
- Denying people entry to any shop, hotel, public place of worship and place of public entertainment.
- Refusing to let individuals into facilities such as hospitals, educational institutions or hostels that are intended to serve the needs of the general public.



- Justifying untouchability on traditional, religious, philosophical or other grounds.
- Insulting a person belonging to scheduled caste on the ground of untouchability.
- Restriction on the placement of public services, such as at a reservoir, a tap, or other water sources, a road, a public pasture, a crematorium or other places.

106. The authority to determine the number of Judges in a High Court rests with which of the following entities?

- (A) The President
- (B) The Chief Minister of the State
- (C) The Prime Minister
- (D) The Parliament

Ans: A

Exp: As per Article 216, every high court (whether exclusive or common) consists of a Chief Justice and such other judges as the president may from time to time deem necessary to appoint. Thus, the Constitution does not specify the strength of a high court and leaves it to the discretion of the president. Accordingly, the President determines the strength of a high court from time to time depending upon its workload.

BCW BITS:

Appointment of judges to high court

- The judges of a high court are appointed by the president of India under Article 217.
- The Chief justice of a high court is appointed after consultation with the CJI and governor of the state concerned. If it is for a common high court, then the governors of all the concerned state high courts are consulted.
- In case of appointment of other judges to high court, it was opined that CJI should consult a collegium of two senior-most judges of the SC before recommending a name to the President of India.

107. The Fifth Schedule deals with the governance and protection of the interests of which specific group of people?

- (A) Scheduled Castes
- (B) Religious Minorities

- (C) Scheduled Tribes
- (D) Linguistic Minorities

Ans: C

Exp: The Fifth Schedule of the Indian constitution deals with provisions related to the Administration and control of Scheduled Areas and Scheduled Tribes. It provides for the administration of tribal Areas in ten states in India, including Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana.

Criteria for defining states under the 5th schedule: **The Dhebar Commission** (1960-61), laid down the following criteria for declaring any area as a 'Scheduled Area' under the Fifth Schedule:

- Preponderance of tribal population, which should not be less than 50 percent.
- Compactness and reasonable size of the area.
- Underdeveloped nature of the area.
- Marked disparity in the economic standard of the people as compared to the neighboring Areas.

These criteria are not spelt out in the Constitution of India but have become well established with time.

108. In which case(s) did the Supreme Court of India give for the first time the doctrine of 'basic structure' of the Constitution?

- (A) Golaknath vs. State of Punjab
- (B) Kesavananda Bharati vs. State of Kerala
- (C) Minerva Mills vs. Union of India
- (D) Both (A) and (B)

Ans: B

Exp: The doctrine of Basic Structure is a judicial innovation which was propounded by the Judiciary on 24th April 1973 in the Kesavananda Bharati vs State of Kerala case, to put a limitation on the amending powers of the Parliament under Article 368.

The word "Basic Structure" is **not mentioned** in the constitution but was recognized in the Kesavananda Bharati case of 1973. According to the basic structure doctrine, some basic features of the constitution cannot be amended by the



Parliament in the exercise of its 'constituent power' under Article 368 of the Indian constitution. The case is also known as the Fundamental Rights Case.

There is no clear cut definition of what are the components that constitute the basic structure, however these components have been recognized by the judiciary in various cases to date. Some of these components are:

- Supremacy of the Constitution
- Sovereign, democratic and republican nature of the Indian Polity
- Secular character of the Constitution
- Separation of powers between the legislature, the executive, and the judiciary
- * Federal character of the Constitution
- Unity and integrity of the nation
- Judicial review
- Parliamentary system
- The rule of law
- Harmony and balance between Fundamental Rights and Directive Principles
- Principle of equality
- Free and fair elections

BCW BITS:

The Golaknath and Minerva Mills cases are also related to the basic structure doctrine.

- ❖ Golak Nath vs. State Of Punjab Case (1967): In this case, the Supreme Court overturned its judgement in the Shankari Prasad Case (1951) and ruled that Article 368 only lays down the procedure to amend the constitution and does not give absolute powers to the Parliament to amend any part of the constitution. By this time however, the Basic Structure doctrine was not propounded by the Judiciary.
- Minerva Mills vs. Union of India (1980): In this case, the Supreme Court invalidated provisions of the 42nd Constitutional Amendment Act 1976 and ruled that the Parliament cannot take away the power of 'judicial review' as it is a part of the 'Basic Structure'. So. Judicial review was added

as a component of basic structure in this judgment.

Important Judgements --

- Shankari Prasad vs. Union of India 1951 (Parliament, under Article 368, has the power to amend any part of the constitution, including fundamental rights),
- Sajjan Singh vs. State of Rajasthan 1965 (upheld its earlier judgment in Shankari Prasad case) and
- Golak Nath vs. State Of Punjab Case (1967) cases paved way for the basic structure doctrine.

109. Match the following political parties listed in List-I with their years of establishment in

	List–I		List-II	
(Political Parties)			(Years of Establishment)	
a.	Communist Party of India (Marxist)	1.	1964	
b.	Communist Party of India	2.	1998	
c.	Bahujan Samaj Party	3.	1925	
d.	All India Trinamool Congress (AITC)	4.	1984	

Select the correct answer using the codes given below.

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

Ans: A

Exp:

- The Communist Party of India was founded in 1925 by M.N Roy at Kanpur.
- The Communist Party of India (Marxist) was founded in 1964 through a splitting of the Communist Party of India.



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- The Bahujan Samaj Party was founded in 1984 by Kanshi Ram, a member of the Dalit community. The BSP represents mainly the oppressed sections of the society such as the Scheduled Castes, the Scheduled Tribes, Other Backward Classes as well as religious minorities.
- The All India Trinamool Congress was founded by Mamata Banerjee on 1 January 1998 as a breakaway faction from the Indian National Congress.

Hence option 'A' is the correct answer.

- 110. Under which Article(s), the Speaker can allow any member of the House to speak in his/her mother tongue?
 - (A) Article 110 (1)
 - (B) Article 122 (2)
 - (C) Article 120 (1)
 - (D) Both (A) and (B)

Ans: C

- Exp: Article 120 (1) of the Indian Constitution pertains to the language used in the Parliament. Parliamentary proceedings must take place in either Hindi or English. However, the Chairman of the Rajya Sabha or the Speaker of the Lok Sabha may allow a member, unable to effectively communicate in Hindi or English, to speak in their mother tongue.
 - * Article 110(1) of the Constitution deals with the definition of money bills. A bill is deemed to be a money bill if it deals only with matters specified in Article 110 (1) (a) to (g): taxation, borrowing by the Government, and appropriation of money from the Consolidated Fund of India, among others.
 - * Article 122(2) states that no officer or member of Parliament in whom powers are vested by or under the Constitution, for regulating procedure or the conduct of business, or for maintaining order in Parliament shall be subject to the jurisdiction of any court in respect of the exercise by him of those powers.
- 111. The Foreign Exchange Reserves (FER) of RBI include which of the following?

- 1. Foreign Currency Assets (FCA)
- 2. Gold
- 3. Special Drawing Rights (SDR)
- 4. Reserve Tranche Position

Select the correct answer using the codes given below.

- (A) Only 1 and 2
- (B) Only 2, 3 and 4
- (C) Only 1, 2 and 3
- (D) All of the above

Ans: D

Exp: Foreign Exchange Reserves (also called Forex Reserves) are reserve assets held by a central bank in foreign currencies. RBI is the custodian of the Foreign exchange reserves in India.

These may include foreign currencies, bonds, treasury bills, and other government securities.

Reserves are denominated and expressed in the US dollar, which is the international numeraire for the purpose.

India's foreign exchange reserves comprise of;

- Foreign currency assets (FCAs): These are maintained in currencies like the US dollar, euro, pound sterling, Australian dollar and Japanese yen.
- Gold
- * Special Drawing Rights(SDR): The SDR is an international reserve asset. The SDR is not a currency, but its value is based on a basket of five currencies—the US dollar, the euro, the Chinese renminbi, the Japanese yen, and the British pound sterling.
 - It is a potential claim on the freely usable currencies of IMF members. The SDR is considered as an artificial currency that IMF member states can exchange for freely usable hard currencies like US dollars.
- * Reserve Tranche Position (RTP): This is the reserve capital with the IMF. It is basically an emergency account that IMF members can access at any time without agreeing to conditions or paying a service fee.
 - 1. Each member of the IMF is assigned a quota (membership fee).



2. A country's Reserve Tranche Position (RTP) is the difference between the IMF's holdings of that country's currency and the country's IMF-designated quota.

The biggest contributor to India's Forex reserves is foreign currency assets, followed by gold.

India's foreign exchange reserve was \$ 623.20 billion for the week ending on December 29,2023. India is ranked fourth in terms of Forex reserves after China, Japan and Switzerland as on 29 December, 2023.

112. Consider the following statements about 'Rules of Origin':

- 1. Rules of Origin are the criteria needed to determine the national source of a product.
- Rules of Origin help the custom agencies to know what regulations and fees apply to a given product.
- 3. These are used for the purpose of trade statistics.
- 4. Their importance is derived from the fact that duties and restrictions in several cases depend upon the sources of imports.

Which of the above statements are correct?

- (A) Only 1 and 2
- (B) Only 3 and 4
- (C) Only 1, 3 and 4
- (D) All of the above

Ans: D

Exp: Rules of origin are the criteria needed to determine the national source of a product.

Their importance is derived from the fact that duties and restrictions in several cases depend upon the source of imports.

Rules of origin are used:

- to implement measures and instruments of commercial policy such as anti-dumping duties and safeguard measures;
- to determine whether imported products shall receive most-favored-nation (MFN) treatment or preferential treatment;
- for the purpose of trade statistics;
- for the application of labeling and marking requirements; and
- for government procurement.

113. Consider the following statements about infant mortality rate:

- 1. It is the probability of dying between birth and exactly 1 year of age, expressed per 10000 live births.
- 2. The infant mortality rate in the year 1950 was 189.6.
- 3. In the year 2019, the infant mortality rate was 30
- 4. As per the Sample Registration System (SRS) Bulletin of Registrar General of India (RGI), the State with the highest infant mortality rate in the year 2019 was Uttar Pradesh.

Which of the above statements are correct?

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

Ans: C

Exp: The infant mortality rate is defined as the number of deaths of children under one year of age, expressed per 1000 live births. Statement 1 is wrong as it mentions 10000 instead of 1000. The infant mortality rate in India during 1950 was 189.6.

- ❖ As per the Sample Registration System (SRS) Bulletin of Registrar General of India (RGI), the Infant Mortality Rate (IMR) has reduced from 37 per 1000 live births in 2015 to 30 per 1,000 live births in 2019 at National Level.
 - 1. The state with the highest infant mortality rate in 2019 as per SRS was Madhya Pradesh with a score of 46. Statement 4 is wrong as it says Uttar Pradesh Instead of Madhya Pradesh.

114. Human capital formation as a concept is better explained in terms of a process, which enables

- individuals of a country to accumulate more capital
- 2. increasing the knowledge
- 3. increasing the skill levels
- 4. increasing the knowledge, skill levels and capacities of the people of the country

Select the correct answer using the codes given below.

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

Ans: D

Exp: Human capital consists of the knowledge, skills, and health that people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society.

- Human capital formation is the process of acquiring and expanding the number of competent, educated, and experienced people who are essential to the country's economic, social, and political development.
- Expenditure on Education, health and onjob training help to increase knowledge, skill and capacities of people which in turn can create more efficient and productive human capital.

115. Consider the following statements regarding insolvency and bankruptcy:

- 1. Bankruptcy refers to a financial state in which an individual or entity is unable to pay off their debts as they become due.
- 2. Insolvency refers to a legal process, where the assets of the debtor are liquidated or reorganized for the benefit of creditors.
- 3. Bankruptcy is a state whereas insolvency is the conclusion.
- 4. The Insolvency and Bankruptcy Board of India (IBBI) is the regulatory body responsible for overseeing insolvency and bankruptcy proceedings.

Which of the above statements is/are correct?

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

Ans: C

Exp:

Insolvency is a financial state in which an individual or entity is not able to clear the dues/debts due to the insufficiency of funds. It is a state of economic distress and nature is temporary, therefore the amount can be recoverable.

- ❖ Bankruptcy on the other hand, is a legal concept, wherein the court declares a person as bankrupt, on the failure of a resolution mechanism to settle the debts. It is permanent and final in nature, resulting in the selling of an individual's assets.
- ❖ The Insolvency and Bankruptcy Board of India (IBBI) was established on 1st October 2016 under the Insolvency and Bankruptcy Code (IBC), 2016.
 - 1. It is responsible for the implementation of the IBC. The IBC amends and consolidates the laws relating to insolvency resolution of individuals, partnership firms and corporate persons in a time-bound manner.
 - 2. The Board consists of the following members who are appointed by the Central Government,
 - A Chairperson
 - Three members from among the officers of the Central Government equivalent or not below the rank of a Joint Secretary. These three members represents the Ministry of Finance, Ministry of Corporate Affairs and Ministry of Law, ex-officio.
 - One member is nominated by the RBI, ex-officio.
 - Five other members are nominated by the Central Government, out of which at least three should be whole-time members.
 - The **term of office** of the Chairperson and members (other than ex-officio members) is **five years** or until they attain **sixty-five years**, whichever is earlier, and they are eligible for re-appointment.

116. In which year was the Industrial Policy Resolution adopted?

- (A) 1956
- (B) 1954
- (C) 1952
- (D) 1950

Ans: A

Exp: The Industrial Policy Resolution of 1956, which was the first comprehensive statement of the strategy for industrial development in India.



It was regarded as the "economic constitution of India".

Objectives of the policy

- It emphasized the need to expand the public sector, to build up a large and growing co-operative sector and to encourage the separation of ownership and management in private industries and above all, prevent the rise of private monopolies.
- The resolution emphasized on support for cottage, village and small-scale industries by restricting production for large players, differential taxation or direct subsidies.
- It also factored the losses, that public sector enterprises would make to pursue the greater good of the people.
- Another objective of this resolution was to reduce regional inequalities.
- Under this policy, the government classified industries into three types.
 - 1. First The industries whose future development will be the **exclusive responsibility of the state.** For example, arms and ammunition and allied items of defense equipment, Atomic energy, Iron and Steel etc.
 - 2. Second The industries that will be **progressively state-owned**, and in which the state will generally take the initiative in establishing new undertakings but private enterprise will also be expected to supplement the effort of the state.
 - 3. Third All the remaining industries, which will be **left to the private sector.**

117. Consider the following statements about the Production Linked Incentive (PLI) scheme:

- 1. The scheme offers a production-linked incentive to boost domestic manufacturing and attract large investments in mobile phone manufacturing and specified electronic components.
- 2. The scheme has two categories of applicants, namely, global companies and domestic companies.

- 3. The scheme shall extend an average incentive of around 8% on net incremental sales (over base year) of goods manufactured in India and covered under the target segment, to eligible companies, for a period of six years.
- The target segment under PLI shall include

 (i) laptops, (ii) tablets, (iii) all-in one PCs,
 (iv) servers and (v) Ultra-Small Form Factor (USFF).

Which of the above statements are incorrect?

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

Ans: D

- Exp: The Production Linked Incentive (PLI) Scheme is an initiative by the government of India that aims to stimulate domestic and local production to create micro-jobs while also encouraging international enterprises to locate labor in the country. It comes under the aegis of the 'Aatma Nirbhar Bharat Abhiyan' (Self-Reliant India) initiative.
 - ❖ It was first established in April 2020 for the Large-Scale Electronics Manufacturing sector but was later expanded and now it includes 14 different sectors.
 - The 14 sectors are mobile manufacturing, manufacturing of medical devices, automobiles and auto components, pharmaceuticals, drugs, specialty steel, telecom & networking products, electronic products, white goods (ACs and LEDs), food products, textile products, solar PV modules, advanced chemistry cell (ACC) battery, and drones and drone components.

The PLI Scheme for IT Hardware was established on March 03, 2021 and it offers a production linked incentive to boost domestic manufacturing and attract large investments in the value chain.

❖ The scheme shall extend an incentive of 4% to 2% / 1% on net incremental sales (over base year) of goods manufactured in India and covered under the target segment, to eligible companies, for a period of four (4) years.



- The Target Segment under PLI shall include (i) Laptops (ii) Tablets (iii) All-in-One PCs and (iv) Servers.
- Support under the Scheme shall be provided to companies based on the eligibility criteria laid down for manufacturing of goods (covered under the target segment) in India.
- The Scheme will be implemented through a Nodal Agency which shall act as a Project Management Agency (PMA) and be responsible for providing secretarial, managerial and implementation support and carrying out other responsibilities as assigned by MeitY from time to time.

A **revised PLI scheme** for IT hardware was introduced in May, 2023 to attract big global IT hardware manufacturers to shift their production base to India and give a boost to local production of laptops, servers, personal computers, etc.

- The scheme encourages the **localization of components** and sub-assemblies and allows
 for a longer duration to develop the supply
 chain within the country.
- Additionally, the scheme provides increased flexibility and options for applicants, and is tied to incremental sales and investment thresholds to further incentivize growth.
- Furthermore, semiconductor design, IC manufacturing, and packaging are also included as incentivized components of the PLI Scheme 2.0 for IT Hardware.
- The Scheme shall extend an average incentive of around 5% on net incremental sales (over base year) of goods manufactured in India and covered under the target segment, to eligible companies, for a period of six (6) years.
- The Target Segment under PLI shall include (i) Laptops (ii) Tablets (iii) All-in-One PCs (iv) Servers and Ultra Small Form Factor (USFF).

118. Consider the following statements regarding the SVAMITVA scheme :

1. It is a Central Sector Scheme under the Ministry of Mines.

- This scheme seeks to create geo-positioning infrastructure like the CORS network to benchmark the location and provides five centimeter level accuracy.
- 3. CORS means Cross-Origin Resource Sharing.
- 4. The scheme is a reformative step towards establishment of clear ownership of property in rural inhabited (Abadi) areas, by mapping of land parcels using drone technology.

Which of the above statements are incorrect?

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

Ans: B

Exp: The pilot phase of the SVAMITVA Scheme was launched on 24th April 2020 (Panchayati Raj Day) for implementation during 2020-21. The national roll out of the scheme was launched on 24th April 2021.

"SVAMITVA" (Survey of villages and mapping with improvised technology in village areas) is a Central Sector Scheme that aims to provide the 'Record of Rights' to village household owners possessing houses in inhabited areas (Abadi) in villages.

- Under the scheme, land parcels in rural inhabited areas of all the villages of the country are surveyed. It helps in determination of clear ownership of property.
 - 1. Legal ownership rights (Property cards/ Title deeds) are issued by mapping of land parcels using **drone technology** and Continuously Operating Reference Station (CORS). CORS is a network that supports accurate ground-truthing, Georeferencing, and demarcation of lands.
 - 2. The Scheme also facilitates monetization of properties leading to ease of securing bank loans, reduction of property related disputes, comprehensive village level planning and providing a basis for assessment of property tax, which would accrue to the Gram Panchayats directly in States where it is devolved.
- SVAMITVA Scheme is being implemented with the collaborative efforts of the Ministry



of Panchayati Raj, State Revenue Department, State Panchayati Raj Department and Survey of India (SoI).

- 1. Currently, the scheme is applicable in six states: Haryana, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh, and Uttarakhand.
- 2. It aims to cover all villages in India over a period of **five-year**, from April 2020 to March 2025.

119. Which of the following is/are the consequence(s) of invoking Article 360, declaration of a financial emergency?

- 1. The President may order the States to reduce the salaries and allowances of all or any class of employees serving in connection with the State affairs.
- 2. Money Bills or other financial bills passed by the State Legislature are not required to be reserved for the consideration of the President.
- 3. The President can issue directions for the reduction of salaries and allowances of all or any class of employees serving in connection with the affairs of the Union, including the Judges of the Supreme Court and the High Courts.
- 4. Money Bills or other financial bills are to be reserved for the consideration of the President after they are passed by the Legislature of the State.

Select the correct answer using the codes given below.

(A) Only 1, 3 and 4 (B) Only 2

(C) Only 1 and 2 (D) All of the above

Ans: A

Exp: The emergency provisions are contained in Part XVIII of the Constitution of India, from Article 352 to 360. These provisions enable the Central government to meet any abnormal situation effectively.

Financial Emergency (Article 360)

Grounds of declaration: Article 360 empowers the president to proclaim a Financial Emergency if he/she is satisfied

- that a situation has arisen due to which the financial stability or credit of India or any part of its territory is threatened.
- Parliamentary approval and duration: The proclamation must be approved by both the Houses of Parliament within two months from the date of its issue.
 - 1. However, if the proclamation of Financial Emergency is issued at a time when the Lok Sabha has been dissolved or the dissolution of the Lok Sabha takes place during the period of two months without approving the proclamation, then the proclamation survives until 30 days from the first sitting of the Lok Sabha after its reconstitution, provided the Rajya Sabha has in the meantime approved it.
 - 2. Once approved by both the Houses of Parliament, the Financial Emergency Continues indefinitely till it is revoked.
- The resolution can be passed by either House only by a **simple majority**, that is, a majority of the members of that house present and voting.
- ❖ It can be revoked by the president at any time by a subsequent proclamation. Such a proclamation does not require parliamentary approval.

Effects of Financial Emergency

- Extension of the executive authority of the Union over the financial matters of the States.
- Reduction of salaries and allowances of all or any class of persons serving in the State.
- Reservation of all money bills or other financial bills for the consideration of the President after they are passed by the legislature of the State.
- Direction from the President for the reduction of salaries and allowances of all or any class of persons serving the Union; and the judges of the Supreme Court and the High Courts.

Thus, during the operation of a financial emergency, the Centre acquires full control over the financial matter of the states.



- 120. Which of the following factors could potentially contribute to stagflation in the Indian economy?
 - 1. High inflationary pressures due to increased Government spending
 - 2. Decline in industrial production and sluggish economic growth
 - 3. Decrease in aggregate demand and consumer spending
 - 4. Appreciation of the domestic currency leading to reduction of export competitiveness

Select the correct answer using the codes given below.

(A) Only 1 and 2

(B) Only 2 and 3

(C) Only 1, 3 and 4

(D) 1, 2, 3 and 4

Ans: D

- **Exp:** Stagflation is a condition in which slow economic growth (stagnation), rising prices (inflation), and rising unemployment all happen at the same time.
 - ❖ The term Stagflation was coined by Iain Macleod, a Conservative Party MP in the United Kingdom, in November 1965.
 - The idea became popular during the 1970s when the U.S. economy witnessed high price inflation due to the oil shock as well as an economic recession marked by negative economic growth.

Factors contributing to stagflation

- Reduced consumption: Consumption makes up about 60% of GDP and a reduced consumption affects the demand and production of goods. The lockdowns during the pandemic and the Russia Ukraine war resulted in a fall in economic growth and increasing unemployment even as the price of commodities increased due to supply constraints.
- * Increased Government spending: In a usually low growth situation, central banks and governments try to stimulate the economy through higher public spending and low interest rates to create demand. These measures also tend to elevate prices and cause inflation.

- ❖ Disruption in supply: A sudden disruption in the supply of critical resources, such as oil or food, can cause prices to rise while economic growth slows down. For example, a significant increase in oil prices can increase the cost of production and transportation, leading to higher prices for goods and services.
- Cost-push inflation: When businesses face higher costs of production, they may pass those costs on to consumers in the form of higher prices. When the prices of goods and services go up, it reduces the purchasing power of consumers, leading to reduction in aggregate demand and consumer spending.
- Demand-pull inflation: A strong demand for goods and services can lead to higher prices, which can cause inflation. However, if the economy is unable to keep up with demand, it can result in stagnant growth and high inflation.
- Structural issues: Structural issues such as a lack of investment in infrastructure, inadequate education, and skills training, or inefficient government policies can hinder economic growth and lead to inflation.
- Monetary policy: In some cases, monetary policy can contribute to stagflation. For example, if a central bank maintains a loose monetary policy to stimulate economic growth, it can lead to inflation. However, if the economy is unable to grow, this can result in stagflation.
- Unemployment: Unemployment is at an all time high and has impacted the buying ability of individuals. The increased automated production and inability of the manufacturing sector to boost up the growth has impacted job growth of the country.
- Currency appreciation is the rise in the domestic currency's value compared to a foreign currency. It enables imports to become cheaper and exports to become more expensive. Currency appreciation effects largely have an impact on local businesses as their products and services become costlier



and their demand goes down. They reduce their prices and workforce to survive the dip in demand.

Hence all the four options are correct.

121. As per the Economic Survey, 2023, which of the following statements describe(s) the trend of Foreign Direct Investment in India?

- 1. It has decreased due to the less participation of the private sector.
- 2. It has increased compared to the pre pandemic levels.
- 3. It has increased rapidly without decreasing in any Financial Year after the telecom sector was entirely reformed.
- 4. It has decreased due to a weak global economic situation.

Select the correct answer using the codes given below

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

Ans: D

Exp: The question asked for the "Trend" of FDI according to Economic survey 2022-23.

The survey said that not-withstanding an overall drop in foreign investments in the first half of this fiscal, inflows have stayed above the prepandemic levels, due to structural reforms and measures taken by the government to improve the ease of doing business, making India one of the attractive FDI destinations in the world. Here the trend is "falling" though it is still above the prepandemic levels. Hence statements 1, 2 & 3 are incorrect.

- **❖** The country has registered its highest-ever FDI inflows of \$84.84 billion in 2021-22.
- However, total FDI inflows, which include equity inflows, reinvested earnings and other capital, declined to \$39 billion during the first six months of the current fiscal year as against \$42.86 billion in the year-ago period.
 - The computer software and hardware sector attracted the highest inflows during the first six months of this fiscal. It was followed by services, trading,

- chemicals, automobile and construction (infrastructure) activities.
- 2. FY 2023 saw a drop in FDI inflows in India due to various factors, including the ongoing conflict between Russia and Ukraine, changes in US monetary policy, and other global uncertainties.

122. What is the current population of Gaya district of Bihar?

(A) 598000

(B) 320000

(C) 780000

(D) 234000

Ans: DELETED

Exp:

- According to the 2011 Census the population of Gaya District was 43 lakh (4391418).
- According to the population estimates and projections from the latest revision of the UN World Urbanization Prospects, Gaya's 2023 population is now estimated at 598,345.
- These estimates represent the Urban agglomeration of Gaya, which typically includes Gaya's population in addition to adjacent suburban areas.
- But according to estimates as per Aadhar (uidai.gov.in) Dec 2023 data, the current population is estimated to be 6,104,072.
- So, in view of varying estimates and in the absence of any recent census data, there is no authentic data about the current population. Hence the question is deleted.

123. Which of the following statements about nonplan expenditures of the Central Government is correct?

- (A) The expenditure is on interest payments.
- (B) The expenditure is on science and technology.
- (C) The expenditure is on agriculture.
- (D) None of the above

Ans: A

Exp: The practice of classifying expenditure budget as Plan and Non-Plan in the Budget documents was introduced from the First Five Year Plan in 1951, with the Planning Commission deciding the estimates of plan allocation.

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- Plan expenditure has included spending incurred on programmes and schemes of the government detailed under the prevailing Five Year Plan: it included all kinds of expenditure on schemes, whether on Recurring, or Revenue or Capital heads. Taking Sarva Siksha Abhiyan as an example, expenditure on teachers' salary constituted Plan Revenue Expenditure, and that on construction of school buildings was Plan Capital Expenditure.
- Non-Plan expenditure has referred to the outlays on routine functioning of the government. Interest payments, subsidies, salary and pension payments (for regular cadre staff across sectors), police, defense, expenditure on maintenance of assets or infrastructure across sectors constituted Non-Plan expenditure.
- In important development sectors, more than two-third of total public spending has come from the Non-Plan budget.

With the budget 2017-18, the classification of Plan and Non-Plan expenditure has been phased out, and the expenditures of the Government has been reclassified as Capital and Revenue spending.

124. Which of the following is not true about globalization and its impact on India?

- (A) It has expanded trade in goods and services.
- (B) It has led to greater flow of Foreign Direct Investment.
- (C) Increase in exports is greater than increase in imports.
- (D) None of the above

Ans: C

- Exp: Globalization is a term used to describe how trade and technology have made the world into a more connected and interdependent place. Globalization also captures in its scope the economic and social changes that have come about as a result.
 - Globalization has involved greater trade in commodities and services across the globe;

- The restrictions imposed by different countries on allowing the imports of other countries have been reduced.
- ❖ Similarly, the restrictions on **movement**of capital across countries have also been reduced. In operational terms, it means that investors in rich countries can invest their money in countries other than their own, including developing countries, where they might get better returns. So, it has led to greater flow of Foreign Direct Investment in developing countries like India.
- Globalization has also led to the flow of ideas across national boundaries, such as the spread of internet and computer related services, all across the globe.

125. Consider the following statements about the latest developments in the Union Government finances:

- 1. The fiscal deficit of the Union Government had reached 9.2 percent of GDP during the pandemic FY21.
- 2. The fiscal deficit has moderated to 7·7 percent of GDP in FY22.
- 3. The revenue collection over the last two years has gone down.

Which of the above statements is/are correct?

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

Ans: A

Exp: A fiscal deficit is a shortcoming in the income of a government as compared to its spendings. It is the difference between the total income of the government and the total expenditure incurred by it. This difference is compensated by government borrowings. While calculating the total revenue, borrowings are not included. Mathematically, it can be represented as follows:

Fiscal deficit = Total Expenditure - Total revenue (Excluding the borrowings)

The fiscal deficit of the Union Government, which reached 9.2 per cent of GDP during the pandemic year FY21, has moderated to 6.7 per cent of GDP in FY22 and is further



budgeted to reach 6.4 per cent of GDP in FY23.

Revenue collection hasn't gone down over the last two years. Infact, receipts (excluding borrowings) in 2023-24 are estimated to be Rs 27,16,281 crore, an increase of 11.7% over the revised estimates of 2022-23.

126. Which of the following were the reasons for the failure of the Revolt of 1857?

- 1. The military superiority of the British
- 2. The rebels did not have a unified programme and ideology
- 3. There was a lack of support from all the sections of society

Select the correct answer using the codes given below.

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

Ans: C

- Exp: The cumulative effect of British expansionist policies, economic exploitation, and administrative innovations over the years had adversely affected all the classes of people. The simmering discontent burst in the form of a violent storm in 1857, which shook the British empire in India to its very foundations. The revolt was eventually not successful in ousting the British from the country because of several factors.
 - * All-India participation was absent: The revolt had limited territorial spread. The eastern, southern, and western parts of India remained more or less unaffected. It is believed by a few estimates that not more than one fourth of the total area and not more than one-tenth of the total population was affected.
 - All classes did not join: Certain classes and groups did not join and some even worked against the revolt, such as the zamindars, moneylenders, educated Indians and the Indian rulers of certain princely states such as Gwalior, Indore etc.

- ❖ Poor Arms and Equipment: The Indian soldiers were poorly equipped materially, fighting generally with swords and spears and had very few guns and muskets. On the other hand, the European soldiers were equipped with the latest weapons of war like the Enfield rifle.
- Uncoordinated and Poorly Organized: The revolt was poorly organized with no coordination or central leadership. The principal rebel leaders—Nana Saheb, Tantia Tope, Kunwar Singh, Laxmibai — were no match to their British opponents, in generalship of the Lawrence brothers, John Nicholson, James Outram, Henry Havelock, etc.
- No Unified Ideology: The mutineers lacked a clear understanding of colonial rule; nor did they have a forward-looking programme, a coherent ideology, a political perspective, or a societal alternative. The rebels represented diverse elements with differing grievances and concepts of current politics.

Views of various historians on the nature of the Revolt of 1857

- ❖ V.D. Savarkar in his book, The Indian War of Independence, 1857, called the revolt as the first war of Indian independence. He said it was inspired by the lofty ideal of self-rule by Indians through a nationalist upsurge.
- Dr S.N. Sen in his Eighteen Fifty- Seven considers the revolt as having begun as a fight for religion but ending as a war of independence.
- Dr R.C. Majumdar, however, considers it as neither the first, nor national, nor a war of independence, as large parts of the country remained unaffected and many sections of the people took no part in the upsurge.
- ❖ Jawaharlal Nehru considered the revolt of 1857 as essentially a feudal uprising though there were some nationalistic elements in it (Discovery of India).
- M.N. Roy felt the revolt was a last-ditch stand of feudalism against commercial capitalism.
- R.P. Dutt also saw the significance of the revolt of the peasantry against foreign



domination even though he acknowledged it to be a defense of the old feudal order.

* According to K. Datta. It was "never all-Indian in character, but was localized, restricted, and poorly organized".

127. The cook from Bihar who saved Mahatma Gandhi's life from a murder attempt by food poisoning in 1917 was

- (A) Muzaffar Ahmad
- (B) Batak Mian
- (C) Mir Bakawal
- (D) None of them

Ans: B Exp:

- Mahatma Gandhi was at Champaran in 1917 to fight for the farmers of the region, who were forced to grow indigo under highly exploitative conditions by the Britishers.
- ❖ A British manager of an Indigo plantation known as Erwin invited Gandhi for dinner at his house which Gandhi gladly accepted. He had absolutely no clue that behind Erwin's invitation was a sinister plot to assassinate him.
- The British manager had coerced his cook named Batak Mian to serve Gandhi a glass of milk laced with poison. Erwin also promised Batak Mian with handsome rewards.
- When the moment arrived, the poor cook did serve Gandhi the poisoned glass of milk, but while doing so he also told Gandhi about the poison, exposed the conspiracy and broke into tears. Mahatma Gandhi escaped unhurt.

128. The Bakasht Movement in Bihar during 1937–1938 was organized by whom?

- (A) Swami Dayanand Saraswati
- (B) Jayaprakash Narayan
- (C) Swami Sahajanand Saraswati
- (D) Peer Ali Khan

Ans: C

Exp: Swami Sahajanand Saraswati was an ascetic, a nationalist and a peasant leader of India. He was

an intellectual, prolific writer, social reformer and revolutionary.

- Although born in Ghazipur district of United Provinces (present-day Uttar Pradesh), his social and political activities focused mostly on Bihar in the initial days, and gradually spread to the rest of India with the formation of the All India Kisan Sabha in 1936.
- He had set up an ashram at Bihta, in Bihar carried out most of his work in the later part of his life from there. The Kisan Sabha movement started in Bihar under the leadership of Saraswati who founded the Bihar Provincial Kisan Sabha (BPKS) in 1929, in order to mobilize peasant grievances against the zamindari attacks on their occupancy rights, and thus sparking the farmers' movements in India.

Saraswati organized the Bakasht Movement in Bihar during 1937–1938.

- "Bakasht" means self-cultivated.
- The movement was against the eviction of tenants from Bakasht lands by zamindars and led to the passing of the Bihar Tenancy Act and the Bakasht Land Tax.
- He also led the successful struggle in the Dalmia Sugar Mill at Bihta, where peasantworker unity was the most important characteristic.
- On hearing of Saraswati's arrest during the Quit India Movement, Subhash Chandra Bose and All India Forward Bloc decided to observe 28 April as All-India Swami Sahajanand Day in protest of his incarceration by the British Raj.

129. Consider the following events during India's Freedom Struggle:

- 1. Home Rule Movement
- 2. Surat Split
- 3. Kheda Satyagraha
- 4. Minto-Morley Reforms

Which of the following is the correct chronological order of the events given above?

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



Ans: B Exp:

- ❖ Home Rule Movement: it was the formation of leagues with the objective to demand selfgovernment or home rule for all of India within the British commonwealth. This alliance was to be called the All India Home Rule League along the lines of the Irish Home Rule League.
 - 1. Two Home Rule Leagues were launched—one by Bal Gangadhar Tilak and the other by Annie Besant.
 - 2. Tilak set up the Indian Home Rule League in April 1916. Tilak held his first Home Rule meeting at Belgaum. Poona was the headquarters of his league. His league was restricted to Maharashtra (excluding Bombay city), Karnataka, Central Provinces, and Berar. It had six branches and the demands included Swarajya, formation of linguistic states and education in the vernacular.
 - 3. Annie Besant set up the All-India Home Rule League in September 1916 in Madras (now Chennai) and covered the rest of India (including Bombay city). It had 200 branches, and was loosely organized as compared to Tilak's league. It had George Arundale as the organizing secretary. Besides Arundale, the main work was done by B.W. Wadia and C.P. Ramaswamy Aiyar.
 - 4. The home rule movement however, faded out by 1919.
- ❖ The Surat Split of 1907 was the splitting of the Indian National Congress into two divisions- moderates and the extremists. The extremists led by Bal Gangadhar Tilak and Bipin Chandra Pal, advocated for more radical and direct methods of protests. Whereas, the moderates led by Gopal Krishna Gokhale preferred a more gradual and conciliatory approach.
- Kheda Satyagraha was launched on March 11, 1918, in Kheda District of Gujarat (the then Bombay province). It was the first time

when **Gandhi** adopted a non-cooperation movement in India.

- 1. The movement was initially started by the peasants themselves with the help of a local leader, **Mohanlal Pandya**, demanding the non-payment of the revenue against the backdrop of crop failure.
- 2. According to the Revenue Code, if the yield was less than one-fourth of the normal produce, the farmers were entitled to remission.
- 3. The farmers were requesting that the revenue assessment for the year 1919 be suspended. The government, however, remained adamant and said that the property of the farmers would be seized if the taxes were not paid.
- 4. Gandhi asked the farmers not to pay the taxes. Gandhi was supported by Sardar Vallabhbhai Patel, Narahari Parikh and Ravi Shankar Vyas, who went around the villages, organized the villagers and told them what to do, and gave the necessary political leadership and also organized a tax revolt.
- 5. Ultimately, the government sought to bring about an agreement with the farmers. It agreed to suspend the tax for the year in question, and for the next; reduce the increase in rate; and return all the confiscated property.
- The Morley-Minto reforms named after the Secretary of State for Indian Affairs Lord John Morley and the Viceroy Lord Minto, was the alternative name given to Indian Councils Act 1909.
 - 1. It increased the size of the legislative councils, both Central and provincial. The number of members in the Central Legislative Council was raised from 16 to 60. The number of members in the provincial legislative councils was not uniform.
 - 2. It retained official majority in the Central Legislative Council but allowed the



- provincial legislative councils to have non-official majority.
- 3. The elected members were to be indirectly elected. The local bodies were to elect an electoral college, which in turn would elect members of provincial legislatures, who in turn would elect members of the central legislature.
- 4. It enlarged the deliberative functions of the legislative councils at both the levels. For example, members were allowed to ask supplementary questions, move resolutions on the budget, and so on.
- 5. It provided (for the first time) for the association of Indians with the executive Councils of the Viceroy and Governors. Satyendra Prasad Sinha became the first Indian to join the Viceroy's Executive Council. He was appointed as the law member. Two Indians were nominated to the Council of the Secretary of State for Indian Affairs.
- 6. It introduced a system of communal representation for Muslims by accepting the concept of 'separate electorate'.

 Under this, the Muslim members were to be elected only by Muslim voters. Thus, the Act 'legalized communalism' and Lord Minto came to be known as the Father of Communal Electorate.
- 7. It also provided for the separate representation of presidency corporations, chambers of commerce, universities and zamindars.

130. Lord Lytton is not associated with which of the following?

- (A) The Strachey Commission
- (B) The Arms Act
- (C) The Vernacular Press Act
- (D) The Ilbert Bill

Ans: D

Exp: Lord Lytton served as the Viceroy Of India from 1876 to 1880. His tenure was controversial for its ruthlessness in both domestic and foreign affairs.

Significant events during his tenure

- Royal Titles Act 1876- It was an Act of the Parliament of the United Kingdom which officially recognized Queen Victoria (and subsequent monarchs) as "Empress of India".
- ❖ Delhi Durbar of 1877- The Delhi durbars were grand events organized by the viceroys to mark the coronation of emperors and empresses. In total three Delhi Durbars were held in 1877, 1903 and 1911.
 - 1. The first Grand Durbar was held at Delhi on January 1, 1877, in which Queen Victoria was given the formal title **Kaisar-i-Hind**, which means "Empress of India."
- ❖ Great Famine of 1876: Great famine of 1876-78 was the most grievous calamity experienced since the beginning of the 19th century. It affected Madras, Bombay, Uttar Pradesh & Punjab and about 5 million people perished during that year. Some historians have claimed that the Poet Viceroy Lord Lytton was directly responsible for the murder of 10 million people during the Famine of 1876–1877 because of his unwavering implantation of British trading policies.
- ❖ Strachey Commission, 1880: In 1880, Lytton appointed a commission under Richard Strachey to formulate general principles and suggest measures of preventive or protective character. The Commission recommended adjusting wages from time to time to provide sufficient food for a laborer's support.
- Vernacular Press Act 1878: The Vernacular Press Act (VPA) was designed to have 'better control' over the vernacular press and effectively punish and repress "seditious writing" in "publications in oriental languages.
- ❖ In 1879, the enactment of the Statutory Civil Service brought about a significant change, stating that 1/6 of covenant posts would now be occupied by Indians from high-status families. Additionally, the maximum age for Indian candidates was lowered from 21 to 19 years.



- Policy of proud reserve: He started a new foreign policy of 'proud reserve', which was aimed at having scientific frontiers and safeguarding 'spheres of influence'.
- Second Anglo-Afghan War 1878-80:
 During the second Anglo-Afghan war, the
 British took control of a sizeable portion of
 Afghanistan. After losing, Sher Ali fled in the
 direction of Turkistan. Mohammad Yaqub
 Khan, Sher Ali's son, signed the Gandamak
 Treaty in May 1879, to stop British invasion
 on the remaining part of the nation.
- The Arms Act of 1878, prohibited Indian citizens from carrying arms or weapons without a license. The act was only applicable to Indians and not Englishmen.

131. Which treaty was signed after the Battle of Buxar?

- (A) The Treaty of Allahabad
- (B) The Treaty of Sugauli
- (C) The Treaty of Bassein
- (D) The Treaty of Salbai

Ans: A Exp:

- The Battle of Buxar took place On 22 October, 1764 between the East India Company commanded by Hector Munro, and the united force of Shuja-ud-Daula, the Nawab of Awadh; Mir Qasim, the Nawab of Bengal; and the Mughal Emperor Shah Alam II.
- The battle was a decisive victory for the British East India Company, leading to their eventual domination of Bengal and the establishment of the Bengal Presidency.

The Treaty of Allahabad was signed on 16th August 1765 by Robert Clive— one with the Nawab of Awadh and the other with the Mughal Emperor, Shah Alam II.

Nawab Shuja-ud-Daula agreed to:

- surrender Allahabad and Kara to Emperor Shah Alam II;
- pay Rs 50 lakh to the Company as war indemnity;
- give Balwant Singh, Zamindar of Banaras, full possession of his estate.

Shah Alam II agreed to:

- reside at Allahabad, to be ceded to him by the Nawab of Awadh, under the Company's protection;
- issue a farman granting the diwani of Bengal, Bihar, and Orissa to the East India Company in lieu of an annual payment of Rs 26 lakh; and
- a provision of Rs 53 lakh to the Company in return for nizamat functions (military defense, police, and administration of justice) of the said provinces.

132. The Dutch East India Company established its factory at Patna in which year?

- (A) 1635
- (B) 1632
- (C) 1643
- (D) 1648

Ans: B

Exp: The people of Holland are called the Dutch (now the Netherlands). After the Portuguese, the Dutch were the second Europeans to step foot in India.

- The Dutch East India Company was established in 1602 as "United East India Company" and its first permanent trading post was in Indonesia.
- ❖ In India, they established their first factory at Masulipatnam in 1605, followed by Pulicat in 1610, Surat in 1616, Bimilipatam in 1641 and Chinsura in 1653.
- They also established their first factory at Patna in 1632.
- The Dutch traded in cotton, opium, silk, indigo, rice, and black pepper. They carried indigo manufactured in the Yamuna valley and Central India, textiles and silk from Bengal, Gujarat and the Coromandel, saltpeter from Bihar, and opium and rice from the Ganga valley.
- The Dutch were defeated by English, in the Battle of Hooghly (November 1759), which led to a blow to their ambitions in India. They were also not much interested in empire building in India; their concerns were trade. Their main commercial interest lay in the Spice Islands of Indonesia from where they earned a huge profit through business.



- 133. In which of the following movements did Mahatma Gandhi make the first use of the hunger strike as a weapon?
 - (A) Non-Cooperation Movement
 - (B) Bardoli Satyagraha
 - (C) Ahmedabad Strike
 - (D) Rowlatt Satyagraha

Ans: C

- Exp: The Ahmedabad Mill strike in March 1918, was the first time when Gandhi made use of hunger strike as a weapon.
 - There was a dispute between cotton mill owners of Ahmedabad and the workers over the issue of discontinuation of the plague bonus along with poor working conditions.
 - In 1917, an outbreak of plague epidemic in Ahmedabad led mill owners to provide a 'Plague Bonus' of up to 75% over regular wages to dissuade workers from leaving town.
 - 2. After the epidemic subsided, owners sought to withdraw the bonus, but workers demanded its continuation, citing the high cost of living.
 - ❖ The workers were demanding a rise of 50 percent in their wages as the prices of food grains, cloth and other necessities had doubled due to Britain's involvement in World War I. War I. The mill owners were ready to give only a 20 percent wage hike.
 - ❖ The workers went on strike and asked Anasuva Sarabhai for help.
 - 1. She was a **social worker** who was also the sister of Ambalal Sarabhai, one of the mill owners and the president of the Ahmedabad Mill Owners Association (founded in 1891 to develop the textile industry in Ahmedabad).
 - 2. It was Anusuya Behn who went on later to form the Ahmedabad Textile Labour Association in 1920.
 - 3. Anusuya Ben went to Gandhi, and asked him for help.

- Gandhi asked the workers to go on a strike and demand a 35 percent increase in wages instead of 50 per cent. Gandhi advised the workers to remain non-violent while on strike.
- When negotiations with mill owners did not progress, Gandhi himself undertook a fast unto death (his first) to strengthen the workers' resolve. But the fast also had the effect of putting pressure on the mill owners who finally agreed to submit the issue to a tribunal.
- The strike was withdrawn and the tribunal awarded the workers a 35 percent wage hike.
- 134. The Quit India Movement in 1942 witnessed significant contributions from leaders of Bihar. Which prominent Bihar leader was known as the 'Bihar Kesari' and actively participated in the Quit India Movement?
 - (A) Dr. Rajendra Prasad
 - (B) Shri Krishna Singh
 - (C) Anugrah Narayan Sinha
 - (D) Ram Manohar Lohia

Ans: B

- Exp: Sri Krishna Singh (Sri Babu) (1887–1961), known as Bihar Kesari, was the first Chief Minister of the Indian state of Bihar (1946–1961).
 - He was born on 21 October 1887, to Harihar Singh of village Maur, P.S. Barbigha in Munger district.
 - He passed Matric with first division in 1906 from the Monghyr District High English School.
 - When he was a student of B.A. in Patna College, he went to Arrah in 1910 and he attended the fifth session of the "Bihari Students' Conference" which was presided over by Sachchidanand Sinha.
 - Subsequent to obtaining the degree of M.A. in History in 1913 and did doctorate of law from Patna University in 1914. He started practicing law in 1915, but gave it up in 1921 to take active part in Mahatma Gandhi's non cooperation movement.



- Young Dr. Shri Krishna Singh was highly influenced by the political thinking of Lokmanya Tilak (1856-1920) and Arvind Ghosh.
- He first met Mahatma Gandhi in 1916 at Central Hindu College, Benares and later at Shah Muhammad Zubair's house in December, 1920.
- He along with Mohd. Zubair organized Kisan Sabha at Munger in 1922.
- He established the Swaraj Dal in Bihar in 1923. Swaraj Dal, also known as Swaraj Party was a political party formed in India on 1 January 1923 after the Gaya annual conference in December 1922 of the National Congress.
- He was the President of Munger Zila Parishad from 1934–37. In 1935, he became a member of the Central Assembly.
- In 1929 he became the General Secretary of Bihar Pradesh Kisan Sabha started by Swami Sahajanand Saraswati.
- In 1930, Sinha played an important role in 'Namak Satyagrah' at Garhpura, Begusarai. During arrest he suffered severe scalding injuries to his hands and chest.
- ❖ On 20 July 1937, he became the Premier of Bihar province when Congress came to power. Under the Government of India Act of 1935, Sinha formed his Cabinet at Patna on 20 July 1937. He and his colleague Anugrah Narayan Sinha (Bihar Vibhuti) disagreed with the governor on the issue of the release of political prisoners and resigned.
- At the 53rd session of Indian National Congress held during 19440 in Ramgarh, he became the first Individual Satyagrahi from Bihar, at Gandhi's inspiration.
- As the former Prime Minister (Premier) of Bihar he attended the Shimla Conference and also became a member of the Constituent Assembly of India which framed the Constitution of India.
- It was Sri Krishna Singh who led Dalit's entry into the Baidyanath Dham temple (Vaidyanath Temple, Deoghar), reflecting his commitment to the upliftment and social empowerment of dalits.

- He was the first Chief Minister in the country to abolish the zamindari system in the state. During his tenure as chief minister, the Zamindari Abolition Bill was introduced in the Legislative Assembly on September 18, 1947 and the Land Reform Act was passed in 1950.
- Every year, on 21st October, the State pays homage to the great leader by observing Sri Krishna Jayanti.
- 135. In response to the mass agitation of the Champaran Movement, the British Government took which step to address the issue?
 - (A) Appointed Mahatma Gandhi as the Governor of Champaran
 - (B) Enforced strict curfew and imposed Martial Law in the region
 - (C) Instituted the Champaran Agrarian Committee
 - (D) Declared Champaran as an independent State

Ans: C

Exp: Champaran Satyagraha was the first civil Disobedience movement which was led by Mahatma Gandhi in 1917.

- * Raj Kumar Shukla, a local man, requested Gandhi to look into the problems of Champaran farmers regarding indigo Cultivation.
- The European planters had been forcing the peasants to grow indigo on 3/20 part of the total land (called tinkathia system).
- The planters demanded high rents and illegal dues from the peasants in order to maximize their profits in the wake of cheaper synthetic dyes from Germany. Besides, the peasants were forced to sell the produce at prices fixed by the Europeans.
- Gandhi along with Rajendra Prasad, Mazhar-ul-Haq, Mahadev Desai, Narhari Parekh, and J.B. Kripalani among others, reached Champaran to probe into the matter, the authorities ordered him to leave the area at once. Gandhi defied the order and preferred to face the punishment. This passive resistance



- or civil disobedience of an unjust order was a novel method at that time.
- Finally, the authorities retreated and permitted Gandhi to make an inquiry. Then, the government appointed a committee to look into the matter and nominated Gandhi as a member of the commottee.
- The Committee was presided over by F.G. Sly and had L.C. Adami, Harihar Prsada Narayan Singh, D.J Reid, Gandhi among others as members.
- The Champaran Inquiry Committee submitted its final report on the 4th of October of the same year. The commission recommended the abolition of the Tinkathia system of Indigo Cultivation being practiced in Champaran. It was later turned into the Champaran Agrarian Act in Bihar & Orissa Legislative Council on March 4th, 1918. Further, the commission recommended that a portion of the illegal exaltations taken by the planters was to be refunded and rents be decreased for the ryots.

136. Match List-II with List-II:

	List-I	List-II	
a.	Servants of India	1.	Debendranath
	Society		Tagore
b.	Tattwabodhini	2.	Gopal Krishna
	Sabha		Gokhale
c.	Atmiya Sabha	3.	Ram Mohan
			Roy
d.	AllIndiaTrinamool	4.	Keshab
	Congress (AITC)		Chandra Sen

Select the correct answer using the codes given below.

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

Ans: A

Exp:

- ❖ The Servants of India Society (1905): It was founded by Gopal Krishna Gokhale (1866–1915), a liberal leader of the Indian National Congress, in 1905 with the help of M.G. Ranade. The aim of the society was to train nationalist missionaries and form a cadre of selfless workers for the service of India.
 - 1. In 1911, the **Hitavada** began to be published to project the views of the society.
 - 2. The society chose to remain aloof from political activities and organizations like the Indian National Congress.
 - 3. After Gokhale's death (1915), **Srinivasa Shastri** took over as president.
- Tattwabodhini Sabha (1839): On 6 October 1839, Debendranath Tagore established Tattvaranjini Sabha which was shortly thereafter renamed as the Tattwabodhini ('Truth-seekers') Sabha.
 - 1. The main objective of the Sabha was systematic study of India's past with a rational outlook and propagated the ideas of Raja Rammohan Roy.
 - 2. DebendranathTagore also started a monthly **theological journal named Tattvabodhini Patrika** in Bengali.
 - 3. After some years, in 1859, Tattvabodhini Sabha was incorporated into the Bahmo Samaj.
- Atmiya Sabha (1814): The Atmiya Sabha or Society of Friends was set up by Raja Rammohan Roy in 1814 at Calcutta to propagate the monotheistic ideals of the Vedanta and to campaign against idolatry, caste rigidities, meaningless rituals, and other social ills.
 - 1. Strongly influenced by rationalist ideas, he declared that **Vedanta is based on reason** and that, if reason demanded it, even departure from the scriptures is justified.



137. Ambabai, a woman freedom fighter, belonged to which of the following States of India?

- (A) Kerala
- (B) Andhra Pradesh
- (C) Karnataka
- (D) Madhya Pradesh

Ans: C Exp:

- Amba Bai was born in the year 1889 into an orthodox Brahmin family in the erstwhile Mysore State (now in Karnataka).
- She was widowed at the age of 24 years, having three children.
- Amba Bai was fondly known as Ambi.
- She participated in the freedom struggle and got arrested several times, and served a rigorous sentence. On many occasions, she gave powerful speeches, taught spinning, and defied the conservative nature of society. She educated herself through college, became economically independent, and went on to become the Principal of the Vani Vilas Girls School in Bangalore.

138. Who among the following was not a member of the Cabinet Mission?

- (A) P. Lawrence
- (B) A. V. Alexander
- (C) J. Andrew
- (D) None of them

Ans: C

- Exp: The Cabinet Mission was a high powered committee that was announced by the Attlee government in February 1946 to discuss the terms of transfer of power from the British to the Indian government. It consisted of three members:
 - Chairperson was Pethick Lawrence, Secretary of State for India;
 - Stafford Cripps, President of the Board of Trade; and
 - ❖ A.V. Alexander, First Lord of Admiralty

The Cabinet Mission reached Delhi on March 24, 1946. It's mains points included the following:

- It rejected the demand of Pakistan and instead, proposed an Indian Union consisting of British provinces as well as Princely States.
- The union would control defense, communication, and external affairs.
- It divided the provincial assemblies into three sections:
 - 1. Section-A: Madras, Bombay, Central Provinces, United Provinces, Bihar, and Orissa (Hindu-majority provinces)
 - 2. Section-B: Punjab, North-West Frontier Province, and Sindh (Muslim-majority provinces)
 - 3. Section-C: Bengal and Assam (Muslimmajority provinces).
- Princely states were no longer to be under paramountcy of the British government. They would be free to enter into an arrangement with successor governments or the British government.
- Provinces had full autonomy and residual powers. After the first general elections, a province was to be free to come out of a group and after 10 years, a province was to be free to call for a reconsideration of the group or the union constitution.
- A constituent assembly was to be elected by provincial assemblies by proportional representation (voting in three groups—General, Muslims, Sikhs).
 - 1. This constituent assembly would be a **389-member body** with provincial assemblies sending 292, chief commissioner's provinces sending 4, and princely states sending 93 members.
 - 2. In the constituent assembly, members from groups A, B, and C were to sit separately to decide the constitution for provinces and if possible, for the groups also.
 - 3. Then, the whole constituent assembly (all three sections A, B, and C combined) would sit together to formulate the union constitution.
- Communal questions in the central legislature were to be decided by a simple



majority of both communities present and voting.

Meanwhile, an interim government was to be formed from the constituent assembly.

Both the Congress as well as the Muslim League accepted the plan but later on the Muslim League withdrew and called for direct action to achieve Pakistan.

- 139. "The Indian National Congress was founded on the basis of safety valve theory, to protect the British Government from threats." Which leader said that?
 - (A) C. Rajagopalachari
 - (B) Lala Lajpat Rai
 - (C) Bipin Chandra Pal
 - (D) None of them

Ans: B

Exp: The theory posits that A. O. Hume, a retired English civil servant, played a crucial role in giving the idea of an all India organization, a concrete and definitive form. He engaged with prominent Indian leaders and collaborated with them to organize the inaugural INC session in Bombay in December 1885. It is believed by many that Hume's primary intention in establishing and promoting this association was likely to provide a "safety valve" for the mounting discontent among educated Indians. To this end, he convinced Lord Dufferin not to obstruct the formation of the Congress.

This notion was endorsed by extremist leaders, including Lala Lajpat Rai.

- Lala Lajpat Rai in 1916, in his 'Young India' used the Safety Valve theory to attack the moderates in the Congress. In this he argued that the formation of Congress was supported by Lord Dufferin with the intention of saving the British empire rather than winning political liberties for India.
- * R. Palme Dutt in his authoritative work 'India Today' used the Safety Valve theory. He argued that Congress was created under a secret prearranged plan with the Viceroy to safeguard the British empire against the rising forces of popular discontent and anti British feeling. He also stressed that Congress was

- created as a vehicle or an organ of opposition of a real mass based revolution.
- In 1939, M.S.Golwalkar also used the Safety Valve Theory in his pamphlet "We" to attack Congress for its secularism and thus branded it as an anti national organization.
- Even the Marxist historian's 'conspiracy theory' was an offspring of the 'safety valve' notion. For example, R.P. Dutt opined that the Indian National Congress was born out of a conspiracy to abort a popular uprising in India and the bourgeois leaders were a party to it.
- Modern Indian historians, however, dispute the idea of 'safety valve'. In their opinion, the Indian National Congress represented the urge of the politically conscious Indians to set up a national body to express the political and economic demands of the Indians.
- 140. In which of the following Indian National Congress Sessions, the resolutions related to the Fundamental Rights were passed for the first time?
 - (A) Surat Session—1907
 - (B) Gaya Session—1922
 - (C) Karachi Session—1931
 - (D) None of the above

Ans: C

Exp: The Karachi Session, held in March 1931, was a special session of the Congress to endorse the Gandhi-Irwin Pact and it was held in the immediate aftermath of Bhagat Singh, Sukhdev and Rajguru's execution.

The significance of this session can be gauged from the fact that its socio economic provisions influenced the constituent assembly in drawing up Part IV of the Indian Constitution – the Directive Principles of State Policy (DPSP).

Congress Resolutions at Karachi

- It disapproved of political violence but also admired the sacrifice of the three martyrs.
- It endorsed the Gandhi Irwin Pact or the Delhi Pact. The Gandhi-Irwin Pact, was



an agreement signed on March 5, 1931, between Mohandas K. Gandhi, leader of the Indian nationalist movement, and Lord Irwin, British viceroy (1926–31) of India.

- 1. Under this pact Gandhi agreed to suspend the Civil Disobedience movement and participate in the Round Table Conference and the British agreed to release all political prisoners not convicted of violence.
- The goal of purna swaraj (declared at the Lahore session of 1929) was reiterated.
- Two important resolutions were adopted at the session—one on Fundamental Rights and the other on the National Economic Programme—which made the session particularly memorable. The Resolution on Fundamental Rights guaranteed:
 - 1. free speech and free press
 - 2. right to form associations and the right to assemble
 - 3. universal adult franchise
 - 4. equal legal rights irrespective of caste, creed, and sex
 - 5. neutrality of state in religious matters

- 6. free and compulsory primary education
- 7. protection to culture, language, script of minorities and linguistic groups
- **❖** The Resolution on National Economic Programme included:
 - 1. substantial reduction in rent and revenue in the case of landholders and peasants
 - 2. exemption from rent for uneconomic holdings
 - 3. relief from agricultural indebtedness
 - 4. control of usury
 - better conditions of work including a living wage, limited hours of work and protection of women workers in the industrial sector
 - 6. right to workers and peasants to form unions
 - 7. state ownership and control of key industries, mines, and means of transport

This was the first time the Congress spelt out what swaraj would mean for the masses—"in order to end exploitation of masses, political freedom must include economic freedom of starving millions."





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