

ALL INDIA MOCK TEST
TEST – 2 KEY WITH EXPLANATION

1. Answer : A

Explanation : Article 20 grants protection against arbitrary and excessive punishment to an accused person, whether citizen or foreigner or a legal person like a company or a corporation.

It contains three provisions in that direction:

Article 20(1): No ex-post-facto law

(a) No person shall be convicted of any offense except for violation of a law in force at the time of the commission of the act.

(b) No person shall be subjected to a penalty greater than that prescribed by the law in force at the time of the commission of the act.

Ex-Post-Facto Mean legislature can make such law which affect the offences which done in past. But here article 20(1) protect accused by denying this type of law.

Legislature can make both type of law prospective and retrospective but in criminal case legislature can not make retrospective laws.

However, such protection is available only in case of criminal laws and not civil laws or tax laws. In other words, civil liability or a tax can be imposed retrospectively.

2. Answer: B

Explanation: NHRC is non-constitutional body, Statutory Body has power of civil court. Government cannot ignore its recommendation.

3. Answer: C

1st statement is wrong: The act authorizes state legislatures to decide on the reservation of seats in any level of panchayat or office of chairperson in favor of backward classes under the voluntary provision

2nd statement is also wrong, because a state having a population not exceeding 20 lakhs may not constitute panchayats at the intermediate level.

3rd statement is correct: state election commissioner to be appointed by the governor but he shall not be removed from office except in the manner and on the ground prescribed for the removal of a judge of the state high court.

4. Answer: A

Explanation: CEC can be removed by passing the resolution to both the house of parliament with special majority.

5.C

Gandhian Principles as DPSP

- Article 40: Organization of village Panchayats
- Article 43: Promotion of cottage industries

- Article 46: Promotion and protection of interests of educational and economic interests of SCs, STs, and other weaker sections of the society and to protect them from social injustice and exploitation
- Article 47: Prohibition of consumption of intoxicating drinks and drugs which are injurious to health
- Article 48: Prohibition of slaughter of cows, calves and other milch and draught cattle and to improve their breeds

6. B

Explanation:

There are certain grounds on which the Constitution of India introduces restrictions. Article 19 (2) of Indian Constitution empowers the State to instill reasonable restrictions on the following grounds:

- Security of the State;
- Friendly Relation with Foreign States;
- Public Order;
- Decency and morality;
- Contempt of court;
- Defamation;
- Incitement to offence;
- Integrity and Sovereignty of India.

7. Answer: C

Explanation :

In India, a liberal interpretation is made by the judiciary after 1978 and it has tried to make the term 'Procedure established by law' as synonymous with 'Due process' when it comes to protecting individual rights.

In Maneka Gandhi vs Union of India case (1978) SC held that – 'procedure established by law' within the meaning of Article 21 must be 'right and just and fair' and 'not arbitrary, fanciful or oppressive' otherwise, it would be no procedure at all and the requirement of Article 21 would not be satisfied. Thus, the 'procedure established by law' has acquired the same significance in India as the 'due process of law' clause in America

8. Answer: C

Provision of Family welfare and Small scale industries is included under the 73rd Constitutional Amendment Act of 1992 and also village panchayat is having 29 functional item that mention under article 243 –G.

slum improvement and upgradation, burial ground and cattle bond is mention under functional item of the 74th constitutional amend act of 1992 (municipality administration) and that act also having 18 functional item (Article 243-W).

9. Answer: D

Explanation: Article 359 – Suspension of the enforcement of Fundamental Rights during emergencies

10. Answer: C

Explanation:

A minority is a group of people whose religion, practices and ethnicity are lesser in number as compared to the total population.

A minority may be:

- Ethnic minority
- Racial minority
- Religious minority
- Sexual minority etc.

Article 30 of the Constitution of India recognises minorities on the basis of religion and language. Article 30 also mandates that all minorities shall have the right to establish and administer educational institutions of their choice, they cannot be denied access to it on the ground of their being minority.

11. Answer: D

- The Parliament has exclusive powers to make laws with respect to any of the matters enumerated in the Union List. This list has at present 100 subjects (originally 97 subjects) like defence, banking, foreign affairs, currency, atomic energy, insurance, communication, interstate trade and commerce, census, audit and so on.
- The **state legislature has “in normal circumstances” exclusive powers** to make laws with respect to any of the matters enumerated in the State List. This has at present 61 subjects (originally 66 subjects) like public order, police, public health and sanitation, agriculture prisons, local government, fisheries, markets, theaters, gambling and so on.
- Both, the **Parliament and state legislature can make laws with respect to any of the matters enumerated in the Concurrent List**. This list has at present 52 subjects like criminal law and procedure, civil procedure, marriage and divorce, population control and family planning, electricity, labour welfare, economic and social planning, drugs, newspapers, books and printing press, and others.

12. Answer: A

Option 2 is wrong: According to the PESA Act, 1996 the reservation of scheduled tribes shall not be less than one –half of the total number of seats and also all seats of chairpersons of panchayats at all level shall be reserved for the scheduled tribes.

Gram Sabhas under PESA Act were entrusted with wide-ranging powers to:

Enforce prohibition or to regulate or restrict the sale and consumption of any intoxicant.

Ownership of minor forest produce.

Prevent alienation of land in the Scheduled Areas and to take appropriate action to restore any unlawfully alienated land of a Scheduled Tribe.

Manage village markets by whatever name is called.

Exercise control over money lending to the Scheduled Tribes.

Exercise control over institutions and functionaries in all social sectors.
Control over local plans and resources for such plans including tribal sub-plans.

13. Answer: D

Fundamental Rights Available Only to Citizens of India

- Article 15 – Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth.
- Article 16 – Equality of opportunity in matters of public employment.
- Article 19 – Protection of six rights related to freedom – (a) of speech and expression; (b) to assemble peaceably and without arms; (c) to form associations or unions; (d) to move freely throughout the territory of India; (e) to reside and settle in any part of the territory of India; and (f) to practice any profession, or to carry on any occupation, trade or business.
- Article 29 – Protection of language, script and culture of minorities.
- Article 30 – Right of minorities to establish and administer educational institutions.

14. Answer: A

The Central Bureau of Investigation (CBI) is the premier investigating agency of India. Operating under the jurisdiction of the Ministry of Personnel, Public Grievances and Pensions, Government of India. Originally set up to investigate bribery and governmental corruption, in 1965 it received expanded jurisdiction to investigate breaches of central laws enforceable by the Government of India, multi-state organised crime, multi-agency or international cases. The agency has been known to investigate several economic crimes, special crimes, cases of corruption and other cases. CBI is exempted from the provisions of the Right to Information Act. CBI is India's officially designated single point of contact for liaison with the Interpol.

The CBI headquarter is located in CGO Complex, near Jawaharlal Nehru Stadium in New Delhi.

15. Answer: A

16. Answer: (c) Oligopoly

An **Oligopoly** is when a few companies exert significant control over a given market. Together, these companies may control prices by colluding with each other

17. Answer D

Fiscal Deficit is the difference between the total expenditure of the government and the total receipts of the government, excluding borrowing.

18. Answer B) 3 and 4 only

19. Answer: A

- IBRD. The International Bank for Reconstruction and Development.
- IDA. The International Development Association.

- IFC. The International Finance Corporation.
- MIGA. The Multilateral Investment Guarantee Agency.
- ICSID. The International Centre for Settlement of Investment Disputes.

20. Answer D

- The Laffer Curve is a graphic representation of the relationship between rates of taxation and the resulting levels of government revenue.
- The **Phillips curve** is an economic theory that inflation and unemployment have a stable and inverse relationship.
- A **Lorenz curve**, developed by American economist Max Lorenz in 1905, is a graphical representation of income inequality or wealth inequality.

21. Answer: A

22. Answer : C

Disguised unemployment is the phenomenon where **more people have employed inactivity than needed**. It is usually witnessed in **developing economies and especially in labor-intensive economies**. Disguised unemployment is primarily traced to the **agricultural and unorganized sectors** of the economy. **In India, Agriculture composes nearly half the labor force. This is mainly due to disguised unemployment.**

23. Answer : (d) 1, 2 and 3.

Financial Stability Board is a global organization that came into being after the G20 Summit in London in April 2009 so as to regulate the global financial framework. It is headquartered in Basel, Switzerland. The Financial Stability Board publishes the list of **Global Systemically Important Banks (G-SIBs)** by consulting the Basel Committee on Banking Supervision.

- The Financial Stability Board (FSB) was created to **prevent the failure of the banking sector**, similar to what happened during the global financial crisis of 2007.
- In consultation with the Basel Committee on Banking Supervision (BCBS), the Financial Stability Board (FSB) publishes a list of **Global Systemically Important Banks (G-SIBs)**.
- It consists of **68 member institutions** that include several central banks, ministries of finance, etc.

24. Answer : A

- Stagflation means **a situation characterized by simultaneous increase in prices and stagnation of economic growth**.
- The term Stagflation was coined by **Iain Macleod, a Conservative Party MP in the United Kingdom**, in November 1965.

- It is described as **a situation in the economy where the growth rate slows down, the level of unemployment remains steadily high and yet the inflation or price level remains high** at the same time.

25. Answer: (c) Subsidies provided to an activity on the grounds that the activity generates positive externalities.

26. Answer: c) It is a company that has issued securities through an initial public offering (IPO) and is traded on stock exchange

27. Answer (b) 1 and 3 only

Personal Income

Personal income is the total income received by the individuals of a country from all sources before direct taxes in one year. Personal income is never equal to the national income because the former includes the transfer payments whereas they are not included in national income. Personal income is derived from national income by deducting undistributed corporate profits, profit taxes, and employee's contributions to social security schemes. Personal income differs than private income actually it is less than private income because it excludes undistributed corporate profits.

Personal Income = National Income – Undistributed Corporate Profits – Profit Taxes – Social Security Contributions + Transfer Payments + Interest on Public Debt.

28. Answer D

The **Minimum Alternate Tax** is a **tax that aims to bring all businesses into the income tax loop**. Even after claiming exemptions, the **MAT assures that no company with solid resources and large income can escape paying income tax**.

- MAT is a **clause in direct tax laws that restrict tax exemptions granted to businesses, requiring them to pay a minimum amount of corporate tax** to the government.
- Unlike a conventional corporate tax, which is imposed on taxable earnings, **MAT is levied on book profit**.
- For the first time, **MAT was implemented in 1988 to bring zero-tax corporations into the tax net**.
- It was later repealed in 1990. However, the Finance Act of 1996 reinstated it.
- The **tax applies to all entities functioning in India, regardless of whether they are owned by Indians or foreigners**.
- Life insurance firms and shipping enterprises liable for tonnage tax are **notable exceptions**.
- **Companies with no permanent premises in India are also exempt** from paying MAT.
- MAT was initially only applied to corporations, but it has increasingly been extended to all other taxpayers under the **Alternative Minimum Tax** umbrella.

- The **government lowered the MAT tax rate from 18.5 per cent to 15 per cent in September 2019, while simultaneously lowering the company tax rate from 30 per cent to 22 per cent.**
- In addition, **no MAT would be charged on any new domestic manufacturing firm (incorporated on or after October 1, 2019).**

29. Answer D

Repo stands for “Re Purchase Option”. Repo Rate is the rate at which the central bank (Reserve Bank of India) lends to other banks by buying the securities with an agreement that the bank will buy back on a certain date. Repo lending is a short-term lending option to meet the liquidity requirements of commercial banks.

- For instance, when the repo rate is decreased, banks may find an incentive to sell securities back to the government in return for cash.
- This increases the money supply available to the general economy.

30. Answer B

A Giffen good is a non-luxury, low-income good whose **demand rises as price rises and vice versa**. It describes a good that individuals consume more of as the price rises. As a result, a Giffen good has an upward-sloping demand curve, which is in violation of the fundamental law of demand. Bread, rice, and wheat are the best examples of Giffen goods.

31. Solution: B

Ecologists and evolutionary biologists have proposed various hypotheses to account for the greater biological diversity in the Tropics.

o Speciation is generally a function of time, unlike temperate regions subjected to frequent glaciations

in the past, tropical latitudes have remained relatively undisturbed for millions of years and thus, had a long evolutionary time for species diversification.

o Tropical environments, unlike temperate ones, are less seasonal, relatively more constant and

predictable. Such constant environments promote niche specialisation and lead to a greater species diversity.

o There is more solar energy available in the tropics, which contributes to higher productivity; this in turn might contribute indirectly to greater diversity.

32. Solution: C

Primary production is defined as the amount of biomass or organic matter produced per unit area over a time period by plants during photosynthesis. The rate of biomass production is called productivity.

The gross primary productivity of an ecosystem is the rate of production of organic matter during photosynthesis.

Gross primary productivity minus respiration losses (R), is the net primary productivity (NPP). Secondary productivity is defined as the rate of formation of new organic matter by consumers.

The annual net primary productivity of the whole biosphere is approximately 170 billion tones (dry weight) of organic matter. Of this, despite occupying about 70 percent of the surface, the productivity of the oceans is only 55 billion tonnes.

33. Solution: C

Eutrophication

o The nutrient-enrichment of the lakes promotes the growth of algae, aquatic plants, and various fauna.

This process is known as natural eutrophication.

o Similar nutrient enrichment of lakes at an accelerated rate is caused by human activities and the consequent aging phenomenon is known as cultural eutrophication.

o On the basis of their nutrient content, lakes are categorized as Oligotrophic (very low nutrients), Mesotrophic (moderate nutrients), and Eutrophic (highly nutrient-rich).

o A vast majority of lakes in India are either eutrophic or mesotrophic

Eutrophication eventually creates a detritus layer in lakes and produces a successively shallower depth of surface water. Algal Blooms restrict the penetration of sunlight resulting in the death of aquatic plants and hence restricting the replenishment of oxygen.

34. Solution: C

Decomposers break down complex organic matter into inorganic substances like carbon dioxide, water and nutrients and the process is called decomposition. The important steps in the process of decomposition are fragmentation, leaching, catabolism, humification and mineralisation.

- Bacterial and fungal enzymes degrade detritus into simpler inorganic substances. This process is called catabolism.

- Humification and mineralization occur during decomposition in the soil. Humification leads to the

accumulation of a dark-coloured amorphous substance called humus that is highly resistant to microbial action and undergoes decomposition at an extremely slow rate

- The decomposition rate is slower if detritus is rich in lignin and chitin, and quicker if detritus is rich in nitrogen and water-soluble substances like sugars.

35. Solution: C

Smog derived from smoke and fog, is the most common example of air pollution that occurs in many cities worldwide. There are two types of smog:

- o Classical smog occurs in cool humid climates. It is a mixture of smoke, fog and sulphur dioxide.

Chemically it is a reducing mixture and so it is also called reducing smog.

- o Photochemical smog occurs in warm, dry and sunny climate. Photochemical smog has a high concentration of oxidizing agents and is, therefore, called oxidizing smog.

36. Solution : D

37. Solution: D

The fungi are heterotrophic organisms.

Some unicellular fungi, e.g., yeast are used to make bread and beer. Other fungi cause diseases in plants and animals; wheat rust-causing Puccinia is an important example.

Some are the source of antibiotics,

- o Fungi are cosmopolitan and occur in air, water, soil, and on animals and plants. They prefer to grow in warm and humid places. With the exception of yeasts which are unicellular, fungi are filamentous.

- o The cell walls of fungi are composed of chitin and polysaccharides. Most fungi are heterotrophic and absorb soluble organic matter from dead substrates and hence are called saprophytes. Those that depend on living plants and animals are called parasites.

- o They can also live as symbionts – in association with algae as lichens and with roots of higher plants.

- o Both Asexual reproduction and sexual reproduction is possible

38. Solution:B

The term 'Evil Quartet' is frequently used to describe the threats to biodiversity.

1. Alien Invasive Species
2. Over exploitation
3. Co-Extinction
4. Habitat loss and fragmentation

39. Solution:C

Water vapour accounts for 60-70 percent of the natural greenhouse effect.

40. Solution:D

41. Solution: A

42. Solution: A

43. Solution : D

44. Solution: B

45. Solution:C

A mulch is usually, but not exclusively, organic in nature. It may be permanent (e.g. plastic sheeting) or temporary (e.g. bark chips). It may be applied to bare soil or around existing plants.

• Benefits of mulching include:

- o Shading the soil reduces moisture loss.
- o Reduced rain splash reduces pathogen dispersal.
- o Wind and rain induced soil erosion is reduced.
- o There is a continuous addition of organic matter to the soil.
- o Weeds are suppressed due to absence of sunlight
- o Cover protects crops at seedling stage.
- o Soil temperatures are reduced.

46. Solution: D

47. Solution: D

48. Solution: D

49. Solution: C

50. Solution: A

Greenhouse Gas Bulletin is an annual report of the UN's World Meteorological Organization

(WMO). Breakthrough Agenda Report was released by the International Energy Agency, the International Renewable Energy Agency and the UN Climate Change High-Level Champions

51. Answer-c

a) **Sabarimala** is a hill situated in Perinad village, Ranni Taluk, Pathanamthitta district in Kerala State. This hill is situated at 72 kilometers from Pathanamthitta town. The distance from Ranni to Sabarimala is 60 kilometers.

A motorable road is built from Ranni to Pampa, valley of Sabarimala hills. Sabarimala Sree Dharmasastha Temple. Malikappuram Temple are situated in one side of this hills.

Sabarimala is a part of periyar tiger reserve and Western ghats. The height of Sabarimala from mean sea level is 1,260 meters.

b) **Mahabaleshwar**: is a small town and a municipal council in Satara district, Maharashtra, India. It is a place of pilgrimage for Hindus because Krishna River has its origin here. The British colonial rulers developed the town as a hill station, and served as the summer capital of Bombay Presidency during the British Raj.

Mahabaleshwar is located on the mountainous Sahyadri range of the Western ghats that run North to south along western coast of India. It reaches a height of 1,439 m (4,721 ft) at its highest peak above sea level, known as Wilson/Sunrise Point.

c)Agumbe is a village situated in the Thirthahalli taluka of Shivamogga district, Karnataka, India. It is nestled in the thickly forested Malenadu region of the Western Ghats mountain range. Owing to its high rainfall, it has received the epithet of "The Cherrapunji of South India", after Cherrapunji, one of the rainiest places in India.

Agumbe is associated with rainforest conservation efforts, documentation of medicinal plants, tourism (trekking and photography), and the promotion of cottage industry. **The Agumbe Rainforest Research Station** was established as a sanctuary for the King Cobra, Agumbe's flagship species.

d)Panchmarhi biosphere reserve

Location: Madhya Pradesh

Rivers: Denwa

Climate: Tropical Monsoon climate

The Panchmarhi plateau is cool in summer and has heavy rainfall in the rainy season, whereas low lands in the Narmada basin are uncomfortably hot in summer with less rainfall

Protected areas:

1. Bori Sanctuary,
2. Pachmarhi Sanctuary
3. Satpura National Park

These altogether have also been notified as Satpura Tiger Reserve

Note: Pachmarhi BR area is often recognized as "**Genetic Express Highway**" linking two biological hot spots of the country *viz.* Eastern Himalayas and the Western Ghats, also as a confluence of northern and southern type of vegetation.

52. Answer-a

- **Machilipatnam or Masulipatnam or Bandar** is located in Krishna district, Andhra Pradesh.
- The ancient port town served as the settlement of European traders from the 16th century, and it was a major trading port for the Portuguese, British, Dutch and French in the 17th century.
- The foundation for the Machilipatnam Seaport was laid in 2008.
- It is a proposed deep sea port on the coast of Bay of Bengal.
- It is located 65 km from the trading hub of Vijayawada.
- The Andhra Pradesh Maritime Board (APMB) has planned to build the Port in two phases.

- The seaport proposed at Machilipatnam in Krishna district got **Coastal Regulation Zone (CRZ)** clearance from the National Centre for Sustainable Coastal Management recently.

53. Answer-b

Critical minerals are elements that are the building blocks of essential modern-day technologies.

- Generally, these minerals have important uses and *no viable substitutes*, and are at risk of supply chain disruptions.
- These minerals are used everywhere from making mobile phones, computers to batteries, electric vehicles and green technologies.
- Aerospace, communications and defence industries also rely on several such minerals.
- Based on their individual needs and strategic considerations, different countries create their own lists.
- **Reason for criticality** - As countries around the world scale up their transition towards clean energy and digital economy, these critical resources are key to the ecosystem that fuels this change.
- They are critical as the world is fast shifting from a fossil fuel intensive to a mineral-intensive energy system.

India and Australia are expanding their strategic ties to critical minerals in a bid to create a bulwark against China’s dominance over raw materials ubiquitous in military and commercial applications.

| Most Common Critical Minerals | Purpose |
|-------------------------------|-----------------------------------------|
| Graphite, lithium and cobalt | To make EV batteries |
| Rare earths | To make magnets |
| Silicon | To make computer chips and solar panels |

54. Answer: a

Explanation

- Vizag steel-high tensile heavy plates used for ship building
- Bhadravati steel-high quality chrome steel
- Salem –stainless steel
- Bhilai –Rail bars

55.Ans:c

Explanation

- 1.Lushai hills-Phawngpui
- 2.Patkaibum-Namdapha
- 3.Mikir-Kaziranga
- 4.Garo-Nokrek

56.Ans:d

Favorable Conditions for fog formation:

1. The presence of moisture and a fall in the temperature are key factors for the formation of fog.
2. Long winter nights
3. Clear sky
4. Slow moving air
5. Areas near water bodies, for instance, may see denser fog because of the higher humidity.

Dusty air paves the way for HAZE but not fog

57.Ans :c

The most important reason for very frequent land slides in eastern Himalaya is due to the existence of highly indented rocks because of slamming the door shut action of Gondwana land with Eurasian land

58.Ans a

Cloudburst is very frequent phenomena in Himalayas because of orographic lifting of warm and moist air

59.Ans:b

a)El Nino and La Nina are complex weather patterns resulting from variations in ocean temperatures in the Equatorial Pacific Region. They are opposite phases of what is known as the El Nino-Southern Oscillation (ENSO) cycle.

- The ENSO cycle describes the fluctuations in temperature between the ocean and atmosphere in the east-central Equatorial Pacific.
- El Nino and La Nina episodes typically last nine to 12 months, but some prolonged events may last for years.
- El Nino is a climate pattern that describes the unusual warming of surface waters in the eastern tropical Pacific Ocean.

○ It is the “warm phase” of a larger phenomenon called the El Nino-Southern Oscillation (ENSO). It occurs more frequently than La Nina.

▪ **La Nina**, the “cool phase” of ENSO, is a pattern that describes the unusual cooling of the tropical eastern Pacific.

○ La Nina events may last between one and three years, unlike El Nino, which usually lasts no more than a year. Both phenomena tend to peak during the Northern Hemisphere winter.

b) The Indian Ocean dipole (IOD) is the difference in temperature between the Eastern (Bay of Bengal) and western Indian oceans (Arabian Sea). La Nina and El Nino are the other two similar ocean phenomena to IOD that affect the monsoons in India

c) The Jet Stream is a geostrophic wind blowing horizontally through the upper layers of the troposphere, generally from west to east, at an altitude of 20,000 - 50,000 feet.

▪ Jet Streams develop where air masses of differing temperatures meet. So, usually surface temperatures determine where the Jet Stream will form.

▪ Greater the difference in temperature, faster is the wind velocity inside the jet stream.

▪ Jet Streams extend from 20 degrees latitude to the poles in both hemispheres.

▪ These Jetstream also influence monsoon wind

d) Western disturbances are storms that originate in the Caspian or Mediterranean Sea, and bring non-monsoonal rainfall to northwest India, according to the India Meteorological Department (IMD).

▪ They are labelled as an extra-tropical storm originating in the Mediterranean, is an area of low pressure that brings sudden showers, snow and fog in northwest India.

▪ The meaning of WD lies in its name.

▪ The disturbance travels from the “western” to the eastern direction.

▪ These travel eastwards on high-altitude westerly jet streams - massive ribbons of fast winds traversing the earth from west to east.

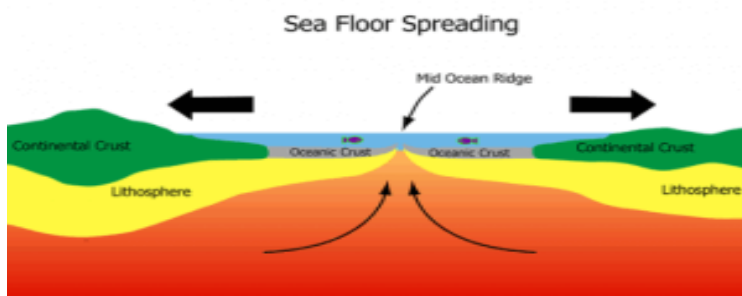
60. Ans d

• **a) Paleomagnetism** is the study of the **record of the earth’s magnetic field** with the help of **magnetic fields recorded in rocks, sediment**, or archaeological materials.

• Rocks formed from underwater volcanic activity are mainly **basaltic** (low silica, iron-rich) which makes up most of the ocean floor.

• Basalt contains magnetic minerals, and as the rock is solidifying, these minerals **align themselves in the direction of the magnetic field**. This locks in a record of which way the magnetic field was positioned at the time.

- Paleomagnetic studies of rocks have demonstrated that the orientation of the earth's magnetic field has **frequently alternated (geomagnetic reversal)** over geologic time.
- **Paleomagnetism** led the revival of the continental drift hypothesis and its transformation into theories of Sea Floor Spreading and Plate Tectonics.
- **b)Sea Floor Spreading:**Seafloor spreading is a process that **occurs at mid-ocean ridges**, where **new oceanic crust is formed through volcanic activity** and then **gradually moves away from the ridge**.



- The idea that the seafloor itself moves (and carries the continents with it) as it expands from a central axis was proposed by **Harry Hess**.
- According to this theory, the intense heat generated by radioactive substances in the mantle (100-2900 km below the earth's surface) seeks a path to escape and gives rise to the formation of **convection currents** in the mantle.
- Wherever **rising limbs** of these currents meet, **oceanic ridges** are formed on the seafloor and, wherever the **falling limbs meet, trenches are formed**.
- The sea-floor spreading also proved the drifting of continents as propounded by Alfred Wegener and helped in the development of the theory of plate tectonics.

c)What are hot plumes?A mantle plume is **an area under the rocky outer layer of Earth, called the crust, where magma is hotter than surrounding magma**. Heat from this extra hot magma causes melting and thinning of the rocky crust, which leads to widespread volcanic activity on Earth's surface above the plume.This geophysical phenomena also substantiates plate tectonics

d) **Convictional Current** Theory was given by Arthur Holmes in the 1930s. It discussed the possibility of convection currents operating in the mantle portion .These currents are generated due to radioactive elements causing thermal differences in the mantle portion.

This force might be the responsible force behind the tectonism among the plates..

61. Ans: A

62. Solution: C

explanation -> Samkya -> postulates that everything in reality stems from purusha (self, soul or mind) and prakriti (matter, creative agency, energy). Samkya was atheistic earlier.

Vaisheshika School is known for its insights in **naturalism**. It is a form of **atomism in natural philosophy**.

63. Solution: B

Explanation -> The Harappan town had very good drainage and sanitary system. The main drain was associated with each and every house ensuring the proper dumping of waste. In order to check the maintenance, inspection holes were provided. The drains were covered and connected to the bigger sewerage outlets, which ensured the channel of dirt out of the city

The bath and kitchen waters, as well as drainage from the latrines, and the roof drainage, usually did not run into the street drains direct, but entered them via tightly brick-lined puts, with outlets to the streets drains about three-quarters of the distance above the bottom.

The most unique aspect of planning during the Indus Valley civilization at Lothal was the system of underground drainage. The main sewer, 1.5 meters deep and 91 cm across, connected to many north-south and east-west sewers. It was made from bricks smoothed and joined together seamlessly. The expert masonry kept the sewer watertight. Drops at regular intervals acted like an automatic cleaning device

64 . Solution: D

65. Solution: C

Explanation ->

1. Brihat Samhita - Guptan times Guptan times .
2. Sushrut Samhita -> Kushanas
3. Ashtadhyayi -> 500 B.CE.
4. Natyashastra - Guptan times (later)

66. A

Explanation ->

Tholkappiyam explains chastity is the state in which the love life of Tamils is centred and manifested. Chastity is to fully attain the state of mind of genuine love (Kalaviyal). Chastity is conducting the wedding ceremony (Karanam) with the knowledge of the whole world. Marriages are completed by tying the Mangal Sutra.

Tolkappiyam completely embodies the lifestyles of the people and the personal ideas expressed in the Sangam literature in alliance with the cultural traditions of the people. Tolkaapiyar describes chastity in the form of the ritual itself. It is also called chastity when the parents give away their daughter to the groom; the parents of the groom receive her by a ritual confirmation ceremony. The woman remaining chaste when the man is away from home is said to be happening in the forest (Mullai Nilam). In the life of a lover, a ritual that is being chaste as 'One man; one woman and one woman; one man' and living together after marrying publicly is accepted universally.

67. Solution: B

Explanation ->

The Monpa tribal people follow the characteristics with other people of Arunachal Pradesh as well as with many other tribes of 'mongoloid characters' of adjacent north-eastern parts. Monpa tribes have also their own and unique system of the practices. The Monpa tribes are all ardent believers of Buddhist practices. **Lord Buddha**, the Dharma (righteousness) and the **Sangha** (order of monks) comprise of the 'Buddhist Trinity'. These three sacred ideals of **Buddhism** are also hold in esteem and reverence by these Monpa tribal community people.

68. Solution:A

69. Solution: A

Explanation ->

The Nataraja temple has ancient roots, likely following the temple architecture tradition that is found all over South India from at least the 5th century. Textual evidence, such as those of the Sangam tradition, suggest a temple existed here along with Madurai in ancient times, but the town is not named Chidambaram in these pre-5th-century texts. The earliest mention of "dancing god of Chidambaram" as Shiva is found in 6th- and early-7th-century texts

70. Solution:D

71. Solution: C

Explanation ->

Tambralinga (Sanskrit: Tāmbraḷiṅga) was an Indianised kingdom located on the Malay Peninsula, existing at least from the 10th to 13th century. It was under the influence of Srivijaya for some time, but later became independent from it. The name had been forgotten until scholars recognized Tambralinga as Nakhon Si Thammarat (Nagara Sri Dharmaraja).

72. Solution:C

Explanation ->

The institution of slavery, in its varied forms can be traced back to early centuries of ancient Indian history. Despite the common ground of labour relations that existed between master and slave, slavery in India was hardly a homogenous affair. While on one hand enslaved women worked as performers in elite Rajput households, on the other military slaves were brought in by Arab merchants in the Deccan. While slaves were employed in cultivation practices of the North East, there was also the case of the same institution producing a ruling dynasty in northern India.

73. Solution:D

Ahom King Swargadeo Chakradhwaja Singha. After the Ahoms enjoyed some initial victories, Aurangzeb dispatched Raja Ram Singh I of Jaipur in 1669 to recapture the lost territory — eventually resulting in the Battle of Saraighat in 1671.

Lachit was a brilliant military commander who knew the terrain of the Brahmaputra valley and the surrounding hills like the back of his hand. He was chosen as one of the five Borphukans of the Ahom kingdom by king Charadhwaj Singha, and given administrative, judicial, and military responsibilities.

Borphukan preferred guerrilla tactics which provided an edge to his smaller, but fast moving and capable forces. Much like Shivaji's encounters with the Mughals in Marathwada, Lachit inflicted damage on the large Mughal camps and static positions. His raids would kill unsuspecting Mughal soldiers and frustrate the mighty armies that were too ponderous to respond swiftly.

74. Solution:C

Explanation ->

Muhammad was the son of the sultan Ghiyāth al-Dīn Tughluq. Very little is known of his childhood, but he apparently received a good education. He possessed an encyclopaedic knowledge of the Qur'ān, Muslim jurisprudence, astronomy, logic, philosophy, medicine, and rhetoric. In 1321–22 his father sent him against the city of Warangal in the Deccan, in which campaign, after initial reverses, he subdued the rebellious Hindu rajas.

75. Solution:A

Explanation ->

- The Battle of Chausa was a notable military engagement between the Mughal emperor, Humayun, and the Afghan, Sher Shah Suri.
- The Battle of Ghaghra was fought in 1529 between Mughal forces under Babur and the Sultanate of Bengal under Sultan Nusrat Shah.
- The Battle of Khanwa was a decisive engagement between the Mughal forces under Babur and the Rajput alliance under Rana Sanga of Mewar.

- Battle of Talikota, confrontation in the Deccan region of southern India between the forces of the Hindu raja of Vijayanagar and the four allied Muslim sultans of Bijapur, Bidar, Ahmadnagar, and Golconda.

76.Solution:B

Explanation ->

Ibrahim Shah was the most famous ruler of **Jaunpur dynasty**. He was able to consolidate and expand his kingdom's borders by wars and marriage alliance, resulting in increased economic and tax resources. He was a **supporter of Islamic education** and established a number of educational institutions. During his rule, a vast number of **scholarly publications on Islamic theology and law** were published. He built a number of monuments in the "shah," a new regional style of architecture. He was a great patron of music and **Sangitasiromani**, a huge musical piece, was written during his time.

77. Solution:B

Explanation ->

Usha Mehta (25 March 1920 – 11 August 2000) was a Gandhian and freedom fighter of India. She is also remembered for organizing the Congress Radio, also called the *Secret Congress Radio*, an underground radio station, which functioned for few months during the Quit India Movement of 1942. In 1998, the Government of India conferred on her Padma Vibhushan, the second highest civilian award of Republic of India.

78. Solution:C

Explanation ->

In the mid-18th century, the Company was in debt and sat on huge stocks of tea in London. The British Parliament bailed them out with the Tea Act of 1773, a bill passed with a nod and a wink, significantly lowering the duty that the Company paid on its tea and enabling direct shipping from China to America only by The Company.

79. Solution: A

Explanation ->

Visionary leader Subhash Chandra Bose inaugurated the Municipal A.V. High School of Amravati. He was part of the 'Savinay Awagya Andolan', which had its head office located in Amravati. The famous 'Namak Satyagraha Andolan', also gets its share of relation with Amravati. On 26th of April 1930, the water required for the Satyagraha Andolan was procured from 'Dahihanda', a small village just 73.1kms from Amravati town.

80. Solution:A

Explanation ->

Dadabhai Naoroji is also known as the 'Grand Old Man of India' and worked as an Ambassador of India. He was a great politician, Indian scholar, and trader. Dadabhai Naoroji was the first Indian-Asian to be a British Member of Parliament. Naoroji was also

one of the founding partners of the Indian National Congress. His book named 'Poverty and Un-British Rule in India' carried an awareness for his theory 'DRAIN OF WEALTH' from India to Britain. Being an Indian, his ideology and knowledge focused on the worldwide welfare and prosperity of the people.

81. Solution: D

Explanation ->

Charter Act – 1813 features

1. Charter act of 1813 ended the monopoly of the East India Company in India, the company's monopoly in trade with china and trade in tea with India was kept intact.
2. The company's rule was extended to another 20 years.
3. The act granted permission to the persons who wished to go to India for promoting moral and religious improvements. (Christian Missionaries)
4. This act regulated the company's territorial revenues and commercial profits. It was asked to keep its territorial and commercial accounts separate.
5. The company's dividend was fixed at 10.5% per annum.
6. There was also a provision that Company should invest Rs. 1 Lakh every year on the education of Indians.
7. It empowered the Local Governments in India to impose taxes on persons and to punish those who did not pay them.

82. Solution: C

Explanation ->

Among Swami Dayananda's immense contributions is his championing of the equal rights of women—such as their right to education and reading of Indian scriptures—and his translation of the Vedas from Sanskrit to Hindi so that the common person may be able to read the Vedas. The Arya Samaj is rare in Hinduism in its acceptance of women as leaders in prayer meetings and preaching. Dayananda promoted the idea of marriage by choice, strongly supported education, pride in India's past, in her culture as well as in her future capabilities. Indeed, he taught that Hinduism is the most rational religion and that the ancient Vedas are the source not only of spiritual truth but also of scientific knowledge. This stimulated a new interest in India's history and ancient disciplines of medicine and science. Dayananda saw Indian civilization as superior, which some later developed into a type of nationalism that looked on non-Hindus as disloyal.

83. Solution: B

Explanation ->

The Meerut Conspiracy Case was a controversial court case that was initiated in British Raj in March 1929 and decided in 1933. Several trade unionists, including three Englishmen, were arrested for organizing an Indian railway strike.

The most well-known of all the communist plot cases brought by the British government was the Meerut Conspiracy Case of 1929. Due to a British government plot to prevent the

spread of communism in India, this had enormous political importance for the working class movement in India. In this instance, 31 labour leaders, including three Englishmen, were detained on conspiracy charges. Three Englishmen were among the trade unionists who were detained for planning an Indian train strike.

84. Solution: C

Explanation ->

Queen Victoria declared in her proclamation that the welfare of Indian citizens would be of primary concern of the British government. It also promised not to indulge in any territorial expansion and also non-interference in religious and social affairs of the natives.

85. Solution: B

86. Solution: C

Explanation: Under the aegis of Azadi Ka Amrit Mahotsav (AKAM), the Ministry of Culture is commemorating the 250th Birth Anniversary of Shri Raja Ram Mohan Roy from 22nd May 2022 to 22nd May 2023. The inaugural ceremony will take place at Raja Ram Mohan Roy Library Foundation, Salt Lake, Kolkata, and at Science City Auditorium, Kolkata. Union Minister of Culture, Tourism, and of Development of North Eastern Region (DoNER) Shri G. Kishan Reddy, and Governor of West Bengal, Shri Jagdeep Dhankhar will be gracing the ceremony on 22nd May 2022.

An iconic statue of Raja Ram Mohan Roy will be unveiled by the Minister of Culture, Shri G. Kishan Reddy in a virtual mode at Raja Ram Mohan Roy Library Foundation, Kolkata at 11:00 AM.

Several other events will also be held at Salt Lake, Science City Auditorium, Kolkata. A seminar and quiz program for children will also be organized. A multimedia presentation on various facets of the life of Shri Raja Ram Mohan Roy will also be presented.

87. Solution :A

Explanation:

The four Holy Kapilvastu Relics of Lord Buddha reached Mongolia for an 11-day exposition in Jun 2022 along with the 25-member delegation, led by Minister of Law and Justice, Shri Kiren Rijiju accompanying the sacred relics.

The Holy Relics were thereafter welcomed at the Gandan Monastery ceremoniously amidst prayers and Buddhist chants. A large number of Mongolian people gathered to pay their respects to the sacred Buddha Relics. The Relics were handed over to the Gandan Monastery in the presence of Buddhist monks from the Gandan Monastery.

88. Solution: C

Explanation:

- He was a 17th-century Marathi poet, Hindu sant, popularly known as Tuko Baraya in Maharashtra.

- His complete name was Tukaram Bolhoba Ambile.
- He was born to Kanakai and Bolhoba More and scholars consider his family to belong to the Kunbi caste.
- He was a contemporary of Mughal king Jahangir.
- His parents were devotees of Vithoba, an avatar of Hindu deity Vishnu (Vaishnavas).
- His guru was bhakti movement Saint Chaitanya Mahaprabhu.

For further reference: <https://journalsofindia.com/sant-tukaram/>

89. Solution: A

Explanation:

India's Arctic policy aims to promote the following agenda—

1. Strengthening national capabilities and competencies in science and exploration, climate and environmental protection, maritime and economic cooperation with the Arctic region. Institutional and human resource capacities will be strengthened within Government and academic, research and business institutions.
2. Inter-ministerial coordination in pursuit of India's interests in the Arctic.
3. Enhancing understanding of the impact of climate change in the Arctic on India's climate, economic, and energy security.
4. Contributing better analysis, prediction, and coordinated policymaking on the implications of ice melting in the Arctic on India's economic, military and strategic interests related to global shipping routes, energy security, and exploitation of mineral wealth.
5. Studying linkages between polar regions and the Himalayas.
6. Deepen cooperation between India and countries of the Arctic region under various Arctic forums, drawing expertise from scientific and traditional knowledge.
7. Increase India's participation in the Arctic Council and improve understanding of the complex governance structures in the Arctic, relevant international laws, and geopolitics of the region.

90. Solution: D

91. Solution: A

92. Solution : C

The world's largest wetland is the Pantanal, which covers 200,000 square kilometres (during the wet season) through Brazil, Paraguay and Bolivia, although 80% of it is in Brazil. It is a land of flooded grasslands, savannas and tropical forests.

93. Solution:D

A Coastal Regulation Zone (CRZ) committee report recommending several changes in the CRZ notification of 2011 was finally released under Right to Information (RTI) Act this week. The report has been kept away from public eye so far and the release comes 18 months after it was submitted. An RTI query was filed to get the report in February 2015 by Kanchan Kohli of the Centre for Policy Research.

The Sailesh Nayak committee report was commissioned in June 2014 after states expressed dissatisfaction regarding the limitations set by the CRZ notification of 2011. The

report was submitted in January 2015 after rounds of stakeholder meetings with representatives from coastal states.

Further reference : <https://www.downtoearth.org.in/news/governance/sailesh-nayak-committee-report-on-coastal-zone-regulations-released-18-months-after-submission-54482>

94. Solution :C

The UAE and Indonesia launched the alliance on the sidelines of the UN climate summit COP27, being held in Sharm El Sheikh in Egypt from November 6 to 18. The collaboration aims to strengthen the conservation and restoration of mangrove ecosystems worldwide. India, Australia, Japan, Spain and Sri Lanka have joined it as partners. India has demonstrated expertise in mangrove restoration for nearly five decades and can contribute to the global knowledge base due to its extensive experience, Union Environment Minister Bhupender Yadav said Monday at the “Mangrove Alliance for Climate” launch.

Further reference : <https://www.outlookindia.com/international/explained-what-is-mangrove-alliance-for-climate-launched-at-cop27-in-partnership-with-india--news-236447#:~:text=At%20the%2027th%20session%20of,sinking%20by%20restoring%20mangrove%20plantations.>

95. Solution: B

Sukapaika is one of the several distributaries of the mighty Mahanadi river in Odisha. main crops were potato, tomato, brinjal, cauliflower and cabbage, which we grew along the river. Fishing was also a lucrative livelihood option. Now all economic activities have stopped. The problem has its roots in 1952, when the state government blocked the starting point of the Sukapaika with an embankment to save the villages around it from floods. Subsequently, in 1957, two major projects — Hirakud Dam in Sambalpur district and Naraj barrage at Cuttack — were built upstream on the Mahanadi, ostensibly to control floods in it.

Further reference : <https://www.thehindu.com/news/national/other-states/national-green-tribunal-directs-to-revive-sukapaika-river-in-odisha-in-next-six-months/article65958091.ece>

96. Solution: B

97. Solution: A

The Godavari estuary in Andhra Pradesh has become a prime and safe habitat for the Indian Skimmer (*Rynchops albicollis*),

The bird has been included in the International Union for Conservation of Nature (IUCN) Red list of endangered species.

98. Solution: C

99. Solution: C

100. Solution: C

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