



ForumIAS

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Prelims Marathon

3rd to 9th August,
2020

HISTORY

ECONOMICS

POLITY

SCIENCE AND TECHNOLOGY

GEOGRAPHY AND ENVIRONMENT



History

Q.1) Consider the following statements regarding the **Permanent Settlement System**:

1. Under Permanent Settlement System land revenue was fixed and reviewed for every 10 years.
 2. It works under the provisions of sunset law.
 3. Benami purchases were prevalent in Bengal to avoid land revenue payments.
- Which of the statements given above is/are correct?

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

ANS: C

Explanation: The Permanent Settlement, also known as the Permanent Settlement of Bengal, was an agreement between the East India Company and Bengali landlords to fix revenues to be raised from land.

- After a prolonged debate amongst Company officials, the Permanent Settlement was made with the rajas and taluqdars of Bengal.
- **They were now classified as zamindars, and they had to pay the revenue demand that was fixed in perpetuity.**
- In terms of this definition, the zamindar was not a landowner in the village, but a revenue Collector of the state.
- The Permanent Settlement had the features that state demand was fixed at 89% of the rent and 11% was to be retained by the zamindar.
- **The state demand could not be increased but payment should be made on the due date, before sunset, so it was also known as the 'Sunset Law'. Failure to pay led to the sale of land to the highest bidder.**
- Faced with an exorbitantly high revenue demand and possible auction of their estates, they devised ways of surviving the pressures. New contexts produced new strategies. Fictitious sale was one such strategy.
- **Between 1793 and 1801 four big zamindaris of Bengal, including Burdwan, made benami purchases that collectively yielded as much as Rs 30 lakh.** Of the total sales at the auctions, over 15 per cent were fictitious.

Q.2) The terms “**haoladars, gantidars and mandals**” in 18th century is related to which of the following?

- a) Zamindars
- b) landless labours
- c) Tax collectors
- d) Village headmen

ANS: D

Explanation: The jotedars were most powerful in North Bengal, although rich peasants and **village headmen** were emerging as commanding figures in the countryside in other parts of Bengal as well.

- **In some places they were called haoladars, elsewhere they were known as gantidars or mandals.**
- Their rise inevitably weakened zamindari authority.

Q.3) Consider the following statements regarding the “**Fifth Report**” of British India:

1. The report was majorly focuses on the conquests of East India Company.
2. It was submitted to the British Parliament in 1833.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: The Fifth Report was submitted to the British Parliament in 1813.

- It was the fifth of a series of reports on the administration and activities of the East India Company in India.
- **Often referred to as the Fifth Report, it ran into 1002 pages, of which over 800 pages were appendices that reproduced petitions of zamindars and ryots, reports of collectors from different districts, statistical tables on revenue returns, and notes on the revenue and judicial administration of Bengal and Madras (present-day Tamil Nadu) written by officials.**

Q.4) The Europeans “**John Zoffany, Tilly Kettle, William and Thomas Daniells**” visited India in 18th and 19th century is related to which of the following?

- a) Artists (painters)
- b) Tax experts
- c) British Parliament committee members
- d) Specialized army commanders

ANS: A

Explanation: About 30 British portrait painters trained in oil paintings and 28 miniaturists travelled to India between 1770 and 1825 in search of commissions.

- **Amongst the earliest European artists who visited India were John Zoffany, William Hodges, Tilly Kettle, William and Thomas Daniells, Emily Eden and others.**
- From around 1760 till the mid-19th century, these itinerant artist-travelers toured India working for local patrons making paintings and prints of monuments, landscapes as well as portraits.
- The artists worked in oils on canvas utilizing the western technique of academic realism with its emphasis on linear perspective.
- These European artists recorded the new colony in prints and paintings that explored the vast landscapes, the numerous historical edifices and monuments and the many communities that inhabited the land.
- Filtered through the ‘orientalist’ lens, these works imaged India as an exotic and mysterious land in paintings depicting the ghats of Benaras, dancing girls in princely courts, colourful caste costumes, portraits of local rulers and their courtiers, different native occupations and the local flora and fauna.

Q.5) Consider the following statements regarding the **Paharias in British India**:

1. They are hunters, shifting cultivators, food gatherers, charcoal producers, silkworm rearers.
2. They regularly raided the plains for their survival.

Which of the statements given above is/are correct?

- a) 1 only

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

ANS: C

Explanation: The life of the Paharias – as hunters, shifting cultivators, food gatherers, charcoal producers, silkworm rearers – was thus intimately connected to the forest.

- They lived in hutments within tamarind groves, and rested in the shade of mango trees. They considered the entire region as their land, the basis of their identity as well as survival; and they resisted the intrusion of outsiders.
- Their chiefs maintained the unity of the group, settled disputes, and led the tribe in battles with other tribes and plainspeople.
- With their base in the hills, **the Paharias regularly raided the plains where settled agriculturists lived.** These raids were necessary for survival, particularly in years of scarcity; they were a way of asserting power over settled communities; and they were a means of negotiating political relations with outsiders.
- The zamindars on the plains had to often purchase peace by paying a regular tribute to the hill chiefs.
- **Traders similarly gave a small amount to the hill folk for permission to use the passes controlled by them.**
- Once the toll was paid, the Paharia chiefs protected the traders, ensuring that their goods were not plundered by anyone.

Q.6) The term “**Damin – i – Koh**” is related to which of the following?

- a) Settlements of Paharias
- b) Settlements of Santhals
- c) Settlements of Mughal lineage
- d) Settlements of Afghan-Bengalis

ANS: B

Explanation: The Santhals had begun to come into Bengal around the 1780s. Zamindars hired them to reclaim land and expand cultivation, and British officials invited them to settle in the Jangal Mahals.

- Having failed to subdue the Paharias and transform them into settled agriculturists, the British turned to the Santhals. The Paharias refused to cut forests, resisted touching the plough, and continued to be turbulent.
- **The Santhals, by contrast, appeared to be ideal settlers, clearing forests and ploughing the land with vigour. The Santhals were given land and persuaded to settle in the foothills of Rajmahal.**
- **By 1832 a large area of land was demarcated as Damin-i-Koh. This was declared to be the land of the Santhals. They were to live within it, practise plough agriculture, and become settled peasants.**
- The land grant to the Santhals stipulated that at least one-tenth of the area was to be cleared and cultivated within the first ten years. The territory was surveyed and mapped.
- Enclosed with boundary pillars, it was separated from both the world of the settled agriculturists of the plains and the Paharias of the hills.

Q.7) Who among the following founded the bi-weekly English newspaper “**Native Opinion**”?

- a) Vishvanath Narayan Mandlik
- b) M K Gandhi

- c) Bal Gangadhar Tilak
- d) Aurbindo Gosh

ANS: A

Explanation: Vishvanath Narayan Mandlik (8 March 1833 – 9 May 1899) was an eminent Bombay citizen, lawyer, author and a legal expert on Hindu law.

- Although a conservative when dealing in several cases involving Hindu traditions (where he opposed state intervention), he supported some reforms such as education for women.
- He also translated several English classics and law books into Marathi.
- He also wrote several works on Hindu Law in English, including translations of Yajnyawalkya's Smriti, the Manu Smriti and Nilakantha's Vywahara-mayukha.
- **He founded a bi-weekly in English called the Native Opinion in 1864 to which he was the sole contributor in the early years.**

Q.8) The Permanent Settlement was rarely extended to any region beyond Bengal.

What is/are the reasons behind non-extension?

1. Due to rise in agricultural price (harvest).
2. Due to influence of economic ideologies.
3. Rise of rentiers in permanent settlement areas.

Select the correct answer using the code given below:

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

ANS: D

Explanation: As British rule expanded from Bengal to other parts of India, new systems of revenue were imposed.

- The Permanent Settlement was rarely extended to any region beyond Bengal. Why was this so?
- One reason was that after 1810, **agricultural prices rose**, increasing the value of harvest produce, and enlarging the income of the Bengal zamindars.
- Since the revenue demand was fixed under the Permanent Settlement, the colonial state could not claim any share of this enhanced income. Keen on expanding its financial resources, the colonial government had to think of ways to maximise its land revenue.
- **When officials devise policies, their thinking is deeply shaped by economic theories they are familiar with.** By the 1820s, the economist **David Ricardo** was a celebrated figure in England. Colonial officials had learnt Ricardian ideas during their college years.
- According to Ricardian ideas, a landowner should have a claim only to the “average rent” that prevailed at a given time. When the land yielded more than this “average rent”, the landowner had a surplus that the state needed to tax.
- If tax was not levied, cultivators were likely to turn into rentiers, and their surplus income was unlikely to be productively invested in the improvement of the land.
- Many British officials in India thought that the history of Bengal confirmed Ricardo’s theory. **There the zamindars seemed to have turned into rentiers, leasing out land and living on the rental incomes.**
- It was therefore necessary, the British officials now felt, to have a different system.

Q.9) Consider the following statements regarding the “**Berlin Committee for Indian Independence**”:

1. It was established by Virendranath Chattopadhyay and Lala Hardayal.
2. It was formed to incite rebellion among Indian troops and to organize an armed invasion of British India

Which of the statements given above is/are correct?

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

ANS: C

Explanation: The **Berlin Committee for Indian Independence** was established in 1915 by Virendranath Chattopadhyay, Bhupendranath Dutta, Lala Hardayal and others with the help of the German foreign office under ‘Zimmerman Plan’.

- These revolutionaries aimed to mobilize the Indian settlers abroad to send volunteers and arms to India to incite rebellion among Indian troops there and to even organize an armed invasion of British India to liberate the country.
- The Indian revolutionaries in Europe sent missions to Baghdad, Persia, Turkey and Kabul to work among Indian troops and the Indian prisoners of war (POWs) and to incite anti-British feelings among the people of these countries.

Q.10) Consider the following statements regarding the “**Faraizi Movement**”:

1. Movement was founded by Haji Shariatullah.
2. It was aimed at the eradication of social innovations or un-Islamic practices current among the Muslims.

Which of the statements given above is/are **NOT** correct?

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

ANS: D

Explanation: The Faraizi movement, also called the Fara’idi Movement because of its emphasis on the Islamic pillars of faith, was founded by Haji Shariatullah in 1818.

- Its scene of action was East Bengal, and it aimed at the eradication of social innovations or un-Islamic practices current among the Muslims of the region and draws their attention to their duties as Muslims.
- Under the leadership of Haji’s son, Dudu Mian, the movement became revolutionary from 1840 onwards.
- He gave the movement an organisational system from the village to the provincial level with a khalifa or authorised deputy at every level.
- The Fara’idis organised a paramilitary force armed with clubs to fight the zamindars who were mostly Hindu, though there were some Muslim landlords too, besides the indigo planters. Dudu Mian asked his followers not to pay rent.
- The organisation even established its own Law courts. Dudu Mian was arrested several times, and his arrest in 1847 finally weakened the movement.
- The movement survived merely as a religious movement without political overtones after the death of Dudu Mian in 1862.

Economy

Q.1) Consider the following statements regarding the **National Small Savings Fund (NSSF)**:

1. It was established in 1999 within the consolidated fund of India.
 2. The money in the account is used by the centre and states to finance their fiscal deficit.
- Which of the statements given above is/are correct?

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

ANS: B

Explanation: National Small Savings Fund (NSSF) was established in 1999 within the Public Account of India for pooling the money from different small saving schemes (SSSs).

- Collections from all small savings schemes are credited to the NSSF.
- Similarly, withdrawals under small savings schemes by the depositors are made out of this Fund.
- **The money in the account is used by the centre and states to finance their fiscal deficit.**
- The balance in the Fund is invested in Central and State Government Securities.
- Pattern of utilization of the fund among the centre and states is decided from time to time by the Government of India.

Q.2) Which of the following institution (s) is/are eligible to raise money from or park excess money with the Reserve Bank of India (RBI) under **Liquidity Adjustment Facility (LAF)**?

1. Primary Dealers
2. Scheduled Commercial Banks
3. Regional Rural Banks

Select the correct answer using the code given below:

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

ANS: B

Explanation: LAF is a facility extended by the Reserve Bank of India to the scheduled commercial banks (excluding RRBs) and primary dealers to avail of liquidity in case of requirement or park excess funds with the RBI in case of excess liquidity on an overnight basis against the collateral of Government securities including State Government securities. Basically LAF enables liquidity management on a day to day basis.

Q.3) Which of the following pair (s) is/are correctly matched?

Index	:	Base Year
1. Wholesale price index	:	2014-15
2. Consumer price index	:	2004-05
3. Gross Domestic Product	:	2011-12

Select the correct answer using the code given below:

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

ANS: C

Explanation: Consumer Price Index or CPI as it is commonly called is an index measuring retail inflation in the economy by collecting the change in prices of most common goods and services used by consumers. **Base Year for CPI is 2012.**

- Wholesale Price Index, or WPI, measures the changes in the prices of goods sold and traded in bulk by wholesale businesses to other businesses.
- With an aim to align the index with the base year of other important economic indicators such as GDP and IIP, **the base year was updated to 2011-12 from 2004-05 for the new series of Wholesale Price Index (WPI), effective from April 2017.**
- **The present base year for gross domestic product is 2011-12.**

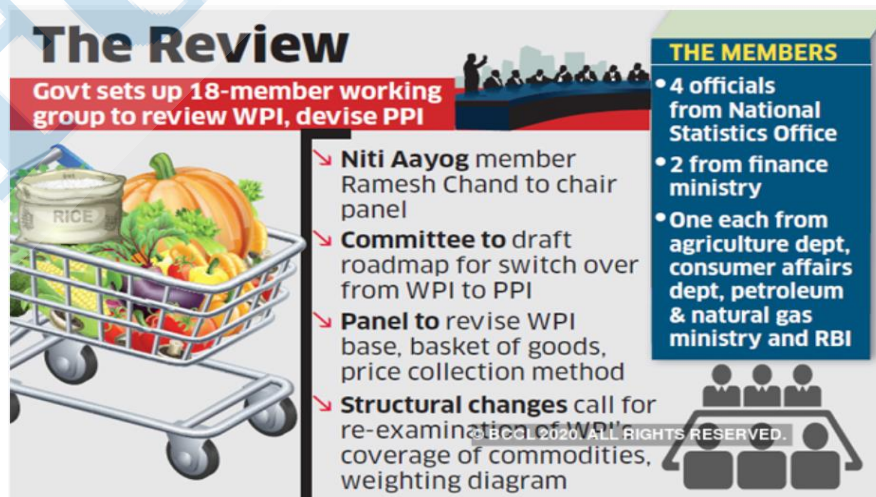
Q.4) The government of India in June 2019 set up a **working group** to revise the current series of Wholesale Price Index (WPI) with base 2011-12 and devise a new Producer Price Index (PPI). The group is headed by which of the following?

- a) Ramesh Chand
- b) B. N. Goldar
- c) Bimal Jalan
- d) Soumya Kanti Ghosh

ANS: A

Explanation: The government has set up a working group under Niti Aayog member Ramesh Chand to revise the current series of Wholesale Price Index (WPI) with base 2011-12 and devise a new Producer Price Index (PPI).

- The group will review the commodity basket of the current series of WPI, suggest changes in commodities in the light of structural changes in the economy witnessed since 2011-12 and decide on the computational methodology to be adopted for monthly WPI/PPI.
- The government had in 2014 constituted a committee under Professor **BN Goldar** to devise a PPI after the Reserve Bank of India began considering consumer price inflation as a better gauge of inflation than WPI.



Q.5) According to the Economic Survey 2019-20, which of the following region has high dispersion of agriculture credit to farmers?

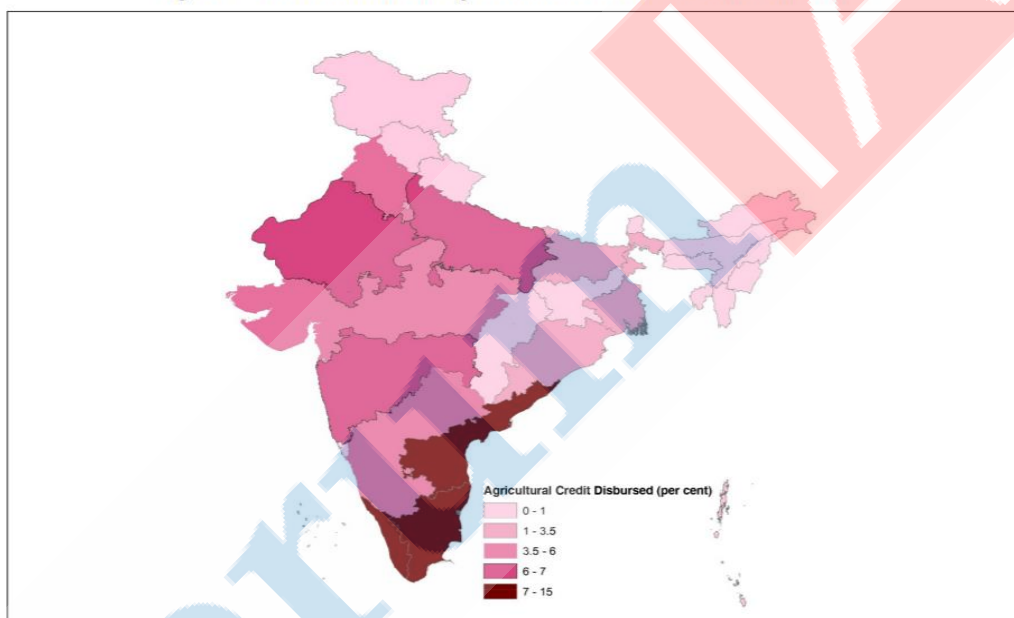
- a) Southern region
- b) Northern region
- c) Central region
- d) Eastern and North Eastern region

ANS: A

Explanation: The agricultural credit flow target for 2019-20 has been fixed at 13,50,000 crore and till 30th November, 2019, a sum of 9,07,843.37 crore has been disbursed.

- The regional distribution of agricultural credit in India is highly skewed.
- It is observed that credit is low in North Eastern, Hilly and Eastern States.
- The share of North Eastern States has been less than one percent in total agricultural credit disbursement.

Figure 3: Distribution of Agricultural Credit in India in 2018-19



Q.6) The term “**Fully Accessible Route**” is recently in news is related to which of the following?

- a) Investment of NRI's in Government securities
- b) Shipping transition with single window clearance
- c) Routes for tribes in forest areas
- d) The International North-South Transport Corridor

ANS: A

Explanation: The Reserve Bank of India (RBI) has introduced a separate channel, namely ‘Fully Accessible Route’ (FAR), to enable non-residents to invest in specified government bonds with effect from April 1, 2020.

- The move follows the Union Budget announcement that certain specified categories of government bonds would be opened fully for non-resident investors without any restrictions.
- Under FAR, eligible investors can invest in specified government securities without being subject to any investment ceilings.

- This scheme shall operate along with the two existing routes, viz., the Medium Term Framework (MTF) and the Voluntary Retention Route (VRR).

Q.7) Consider the following statements regarding the **Additional Tier-1 bonds (AT-1)**:

1. They are issued by banks to shore up their core capital base to meet the Basel-III norms.
2. These bonds are perpetual and carry no maturity date.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: AT-1, short for Additional Tier-1 bonds, are a type of unsecured, perpetual bonds that banks issue to shore up their core capital base to meet the Basel-III norms.

- After a string of banks turned turtle in the global financial crisis, central banks got together and decided to formulate new rules (called the Basel-III norms) that would make them maintain stronger balance sheets.
- In India, one of the key new rules brought in was that banks must maintain capital at a minimum ratio of 11.5 per cent of their risk-weighted loans. Of this, 9.5 per cent needs to be in Tier-1 capital and 2 per cent in Tier-2.
- Tier-1 capital refers to equity and other forms of permanent capital that stays with the bank, as deposits and loans flow in and out.

Q.8) Consider the following statements regarding the **Credit Default Swap (CDS)**:

1. It is a risk management product which helps entities guard against possibility of defaults in repayment of corporate bonds.
2. The eligible participants to participate in CDS are commercial banks, primary dealers, NBFCs, insurance companies and mutual funds.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: CDS is in operation in India since October 2011-launched in only corporate bonds.

- The eligible participants are commercial banks, primary dealers, NBFCs, insurance companies and mutual funds.
- CDS is a credit derivative transaction in which two parties enter into an agreement, whereby one party (called as the 'protection buyer') pays the other party (called as the 'protection seller') periodic payments for the specified life of the agreement.
- The protection seller makes no payment unless a credit event relating to a pre-determined reference asset occurs.
- If such an event occurs, it triggers the Protection Seller's settlement obligation, which can be either cash or physical (India follows physical settlement).
- It means, CDS is a credit derivative that can be used to transfer credit risk from the investor exposed to the risk (called protection buyer) to an investor willing to take risk (called protection seller).

- It operates like an insurance policy. In an insurance policy, the insurance firm pays the loss amount to the insured party.

Q.9) “FERA and FEMA” are often seen in news is related to which of the following?

- a) Foreign funding
- b) Bilateral trade relations
- c) Financial inclusion
- d) Foreign exchange

ANS: D

Explanation: FERA was mainly formulated to deal with deep crunch of **foreign exchange** post world war II and hence was a rigid piece of legislation which have left all the businesspeople and Indian citizens at the mercy of Enforcement Directorate as violence of FERA was considered a criminal act and there were major penalties associated with it.

- FEMA or Foreign Exchange Management Act was introduced in the year 1999 to replace FERA (Foreign Exchange Regulations Act). FEMA came into act on 1st of June 2000.
- The Scope and Objective of FEMA was mainly to amend the laws related to foreign exchange to facilitate external trade and payments and to develop the foreign exchange market in India.
- FEMA was a liberal from of its prior version (FERA). It extends to whole of the country. It introduced resident ship in place of citizenship.
- FEMA is more human and natural in nature and removed all kinds of restrictions on withdrawal of foreign exchange.
- FEMA also introduced RFC (Resident foreign currency account). It specifically deals with possession and retention of foreign currency and includes all kinds of foreign securities and immovable property.

Q.10) Consider the following statements regarding the Farm Subsidies:

1. The farm subsidies of developed countries are higher than developing countries like India.
2. World Bank has put some ceilings on the amount of subsidies being provided by the various developing and developed nations.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Farm subsidies form an integral part of the government's budget.

- **In the case of developed countries, the agricultural or farm subsidies compose nearly 40 per cent of the total budgetary outlay, while in India's case it is much lower (around 7.8 per cent of GDP) and of different nature.**
- **The World Trade Organization (WTO) has put some ceilings** on the amount of direct and indirect subsidies being provided by the various developing and developed nations due to the fact that these subsidies distort the free market forces which have their own implications.

Polity

Q.1) The term “tribe” was first included in which of the following Act?

- A. The Indian Councils Act 1909
- B. The Government of India Act, 1919
- C. The Government of India Act 1935
- D. The Indian Independence Act, 1947

ANS: C

Explanation: In India, around eight percent of the population belongs to the category of Scheduled Tribes.

- The tribes inhabit areas spread over the states of Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh, Orissa, Jharkhand, West Bengal and the Northeastern States of Mizoram, Meghalaya, Nagaland, Assam, Manipur, Tripura and Arunachal Pradesh.
- **The term “tribes” were first included in the Government of India Act 1935.**
- The term “Scheduled Castes” was used in this Act to define, “such castes, races or tribes or parts of groups within castes, races or tribes, which appear to His Majesty in Council to correspond to the classes of persons formerly known as the ‘Depressed Classes’, as His Majesty in Council may prefer.”
- After Independence, the Constituent Assembly of India reserved the prevailing definition of Scheduled Castes and Tribes and conferred the responsibility of compiling a full listing of castes and tribes and also the power to edit this later, on the President of India and the Governors of states.
- Hence, ‘tribes’ were placed in a separate schedule in the schedules to the Presidential Order of 1950 and are today known as ‘Scheduled Tribes’.
- Article 342 of the Constitution of India defines a ‘tribe’ as “an endogamous group with an ethnic identity; who have retained their traditional cultural identity; they have a distinct language or dialect of their own; they are economically backward and live in seclusion, governed by their own social norms and largely having a self-contained economy.”

Q.2) Consider the following statements regarding **female Labour Force Participation Rate (LFPR) in India report by World Bank**:

1. There was a gradual increase in female labour force participation in India.
2. Bihar has the lowest rates of female workforce participation in India.

Which of the statements given above is/are correct?

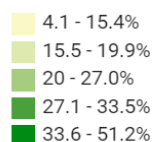
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: B

Explanation: India’s female Labour Force Participation Rate (LFPR)—the share of working-age women who report either being employed, or being available for work—has fallen to a historic low of 23.3% in 2017-18, meaning that over three out of four women over the age of 15 in India are neither working nor seeking work. (The age of 15 is the cut-off used for global comparisons by the International Labour Organization.)

- This would imply that they are most likely running the house and taking care of children.
- Among men, caste and religion make no real difference to workforce participation rates. But among women, Muslim women have the lowest LFPR while among Hindu women, forward caste women have the lowest LFPR, implying that social norms and religious conservatism might play a role in women being “allowed” to work.
- Among Indian states, **Bihar has by far the lowest rates of female workforce participation, while the southern and eastern states do better.**

Female labour force participation rate (%)



Q.3) The “**Global Migration Report 2020**” is published by which of the following Institute?

- a) WEF
- b) UN
- c) UNESCO
- d) International Organization for Migration

ANS: D

Explanation: Recently ‘Global Migration Report 2020’ was published by the International Organisation for Migration.

- In 2019 international migrants are estimated at 270 million where more than half of all international migrants (141 million) live in Europe and North America.
- Top destination remains the United States at nearly 51 million.

Q.4) The “**Part X**” of the Indian Constitution is related to which of the following?

- a) Anti-Defection
- b) Scheduled and Tribal Areas
- c) Election Commission
- d) Foreign Affairs

ANS: B

Explanation: Article 244 in Part X of the Constitution envisages a special system of administration for certain areas designated as ‘scheduled areas’ and ‘tribal areas’.

- The Fifth Schedule of the Constitution deals with the administration and control of scheduled areas and scheduled tribes in any state except the four states of Assam, Meghalaya, Tripura and Mizoram.
- The Sixth Schedule of the Constitution, on the other hand, deals with the administration of the tribal areas in the four northeastern states of Assam, Meghalaya, Tripura and Mizoram.

Q.5) The “**Economic Outlook for South East Asia, China and India**” report is recently in news is released by which of the following Institution?

- a) IMF
- b) World Bank
- c) OECD
- d) WEF

ANS: C

Explanation: The Organization for Economic Co-operation and Development (OECD) has released its report titled Economic Outlook for South East Asia;

- The report said that India’s reliance on consumption will continue due to large informal labor share which indicates that there is room to strengthen the consumption base.
- India’s gross domestic product (GDP) is projected to grow at 6.6% in 2020-24 lower than its 2013-17 average of 7.4%.

Q.6) The “**Atal Ranking of Institutions on Innovation Achievements (ARIIA) 2020**” is recently in news is launched by?

- a) NITI Aayog
- b) Ministry of Human Resource and Development
- c) The Ministry of Electronics and Information Technology (MeitY)
- d) None of the above

ANS: B

Explanation: Union Human Resource Development (now ministry of education) Minister has launched the Atal Ranking of Institutions on Innovation Achievements (ARIIA) 2020.

It aims to systematically rank all major educational institutions and universities on indicators related to promotion of Innovation and Entrepreneurship Development amongst their students and faculties.

Q.7) Consider the following statements regarding the **Khelo-India Programme**:

1. It was introduced by the Ministry of Sports and Youth affairs.
2. The objective of the programme is to build a strong framework for all sports played in our country and establish India as a great sporting nation.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Khelo India Programme was introduced by the Ministry of Sports and Youth affairs to revive sports culture in India at grass-root level.

- The objective of the programme is to **build a strong framework for all sports played in our country and establish India as a great sporting nation.**
- The programme is the merger of following schemes (a) Rajiv Gandhi Khel Abhiyan (RGKA) (b) Urban Sports Infrastructure Scheme (USIS) and (c) National Sports Talent Search Scheme (NSTSS).

Q.8) Consider the following statements regarding the **Atal Beemit Vyakti Kalyan Yojana**:

1. It is implemented by Employees State Insurance (ESI) Corporation.
2. It offers a relief payable in cash directly to the Bank Account in case an insured person is rendered unemployed and is in search for new engagement.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Atal Bimit Vyakti Kalyan Yojana is a welfare measure being implemented by the Employees State Insurance (ESI) Corporation. The scheme was launched in 2018.

- It is implemented on pilot basis for a period of two years initially.
- **It offers a relief payable in cash directly to the Bank Account in case an insured person is rendered unemployed and is in search for new engagement.**
- The scheme is for Insured Persons covered under the Employees' State Insurance Act, 1948.

Q.9) Consider the following statements regarding the programme "**Vigyan Jyoti**":

1. It was launched by NITI Aayog.
2. It is to inculcate interest in Science, Technology, Engineering and Mathematics (STEM).

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Vigyan Jyoti Scheme is launched by the Department of Science & Technology (DST).

- **It is an initiative that will create a level-playing field for the meritorious girls in high school to pursue Science, Technology, Engineering, and Mathematics (STEM) in their higher education.**
- The programme 'Vigyan Jyoti' aims to tap 100 girl students in 550 districts from 2020-2025, the officials said.

Q.10) Consider the following statements regarding the **Digital Bharat Digital Sanskriti (DBDS)**:

1. It is an E-portal of Centre for Cultural Resources and Training (CCRT).
2. It will provide a platform for specifically dropout children so that they can join the mainstream and pursue their dreams.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Union Ministry of State for Culture & Tourism has launched the E-Portal of Centre for Cultural Resources and Training (CCRT) 'Digital Bharat Digital Sanskriti'.

- The 'Digital Bharat Digital Sanskriti' is an E-portal that will enable dissemination of cultural education through digital interactive medium into classrooms all over the country.
- The portal will provide a platform for specifically dropout children so that they can join the mainstream and pursue their dreams by making a career out of be it music, painting, or any other art forms.
- For this initiative, CCRT has tied up with Routes 2 Roots, an NGO for connecting seamlessly all the CCRT Regional Centres.

Science and technology

Q.1) Consider the following statements regarding the **van der Waals (VdW) materials**:

1. They are made of atomically thin layers are not mixed through a chemical reaction but rather attached to each other via a weak so called van der Waals interaction.
2. Graphene is a good example of van der Waal (VdW) material.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Until six years ago, such materials did not exist but today, researchers believe that they hold the key to 'post-silicon' electronics.

- **VdW materials are made of piles of ultra-thin layers that are held together by weak van der Waals bonds, which arise when atoms are in close proximity.**
- **The success of graphene — a well-known vdW material** — stimulated scientists to look for other 2D crystals, where layers can be changed, added or removed in order to introduce new physical properties such as magnetism.
- Controlling magnetism, as is typical of such materials, could replace the current hard drive assemblies in computers and even become the key to quantum computing.

Q.2) The term “**Quadrantids**” often seen in news is related to which of the following?

- a) Meteor showers
- b) Organic farming
- c) Nuclear fuel rods
- d) Earth like planets

ANS: A

Explanation: The **Quadrantids**, which peak during early-January each year, are considered to be one of the best annual meteor showers.

- Most meteor showers have a two day peak, which makes catching sight of these other meteors much more possible.
- The Quadrantids peak, on the other hand, is much shorter—only a few hours. (The reason the peak is so short is due to the shower's thin stream of particles and the fact that the Earth crosses the stream at a perpendicular angle.)
- During its peak, 60 to as many as 200 Quadrantid meteors can be seen per hour under perfect conditions.
- Quadrantids are also known for their bright fireball meteors. Fireballs are larger explosions of light and color that can persist longer than an average meteor streak.
- This is due to the fact that fireballs originate from larger particles of material. Fireballs are also brighter, with magnitudes brighter than -3.

Q.3) The term “**SPINK1**” often seen in news is related to which of the following?

- a) Cancer genes (cells)
- b) Solar satellite
- c) long distance telescope
- d) Malarial resistant

ANS: A

Explanation: The SPINK1-positive prostate cancer subtype derives its name from the excess amount of SPINK1 oncogene found in the cancer cells.

- Excess production of SPINK1 gene responsible for tumour and metastasis is not restricted to prostate cancer alone but also seen in colorectal, lung, pancreatic, breast and ovarian cancers.
- The molecular mechanism and pathobiology of SPINK1-positive prostate cancer subtype, the second most recurrent and aggressive in nature that affects about 15% of patients has been finally unravelled.
- The insights gained in this study might therefore help in the treatment and disease management of several SPINK1-positive malignancies.
- In addition to excess amount of the SPINK1 oncogene, the researchers found that most cancer cells belonging to this subtype also have more than normal amount of a particular protein called EZH2.
- Also, the levels of two micro RNAs (miRNA-338-5p and miRNA-421) produced in SPINK1-positive cancer cells were much less.

Q.4) The “Skai” sometimes seen in news is related to which of the following?

- a) Solar powered car
- b) Solar powered flight
- c) Hydrogen powered flying car
- d) Helium powered flying drone

ANS: C

Explanation: Massachusetts startup Alaka'i has designed a flying car - Skai - that the company touts as the “first air mobility vehicle powered by hydrogen fuel cells”.

- The hydrogen fuel cells give the five-passenger Skai a maximum range of 400 miles (640 km) with a flight time of up to four hours.
- Like a drone, the Skai takes off and lands vertically. It's one of many similar electric flying crafts in production, including prototypes from Boeing and Airbus that made successful test flights this year, according to Vertical Flight Society, an industry group.
- Most are powered by batteries, which can add a lot of weight. The Skai instead uses very light hydrogen fuel cells to run its rotors, giving it a range of 644 km and the capacity to carry 454 kilograms in people or freight, the company says.

Q.5) Recently Pubpeer website, which monitors image manipulation and duplication, has disclosed 130 research papers for **plagiarism** by which of the following institute?

- a) Indian Institute of Technology – Dhanbad
- b) Indian Institute of Toxicology Research (IITR)
- c) Indian Institute of Technology – Bombay
- d) Indian Institute of Science – Bangalore

ANS: B

Explanation: The credibility of the Indian Institute of Toxicology Research (IITR), Lucknow, has come under a cloud after at least 130 papers published by the institute over the years have been listed on a website that monitors image manipulation and duplication.

- The authors and teams of these papers – published between 2004 and 2018 – vary.
- However, Yogeshwer Shukla, the IITR's chief scientist of food, drug and chemical toxicology, is the common name in 49 of the articles that have been flagged by **Pubpeer, the monitoring website.**

Q.6) The “**Ai – Da**” is sometimes seen in news is related to which of the following?

- a) Humanoid (robot) Artist
- b) Japanese Satellite
- c) Artificial Intelligence (AI) based calculator
- d) Artificial Intelligence (AI) based radar system

ANS: A

Explanation: Billed as “one of the most exciting artists of our time”, Ai-Da differs from generations of past masters in one inescapable way: she is a robot.

- Ai-Da is the brainchild of Aidan Meller, who claims she is the world’s first ultra-realistic humanoid artist, able to draw creatively thanks to in-built artificial intelligence (AI) technology.
- The 46-year-old art dealer recently unveiled Ai-Da — dressed in a brown wig and period-style painter’s blouse — in Oxford, ahead of an exhibition of her first works opening next week in the English University City.

Q.7) The “**Washi paper**” is sometimes seen in news is famous in which of the following country?

- a) China
- b) Taiwan
- c) Mongolia
- d) Japan

ANS: D

Explanation: Once an indispensable part of daily life in Japan, ultra-thin washi paper was used for everything from writing and painting to lampshades, umbrellas, and sliding doors, but demand has plunged as lifestyles have become more westernized.

- Despite its 1,300-year history and UNESCO Intangible Cultural Heritage status, washi paper is struggling to attract consumers and the market value has dropped by more than 50% in the past two decades.
- The world’s thinnest paper has helped save historical documents at major museums and libraries — including the Louvre in Paris, the British Museum and Washington’s Library of Congress — from decay.
- The traditional hand-made paper is manufactured from plants called kozo, or mulberry, which has fibres that are much longer than materials used for paper in the west such as wood and cotton.

Q.8) Consider the following statements regarding the **electronic tattoo**:

1. It is made of a piezoelectric polymer called polyvinylidene fluoride, capable of generating its own electric charge in response to mechanical stress.
2. It is a wearable device that can be placed on the skin to measure a variety of body responses.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: A novel electronic tattoo made from stretchy, lightweight material could make heart health monitoring easier and more accurate than existing electrocardiograph machines.

- This is the latest advance in the team's electronic tattoo technology, a graphene-based **wearable device that can be placed on the skin to measure a variety of body responses, from electrical to biomechanical signals.**
- The latest e-tattoo developed by researchers at the University of Texas at Austin in the U.S. is so light and stretchable that it can be placed over the heart for extended periods with little or no discomfort.
- It also measures cardiac health in two ways, taking electrocardiograph and seismocardiograph readings simultaneously.
- The electrocardiogram (ECG) method records the rates of electrical activity produced each time the heart beats.
- Seismocardiography (SCG) is a measurement technique using chest vibrations associated with heartbeats.
- Powered remotely by a smartphone, the e-tattoo is the first ultrathin and stretchable technology to measure both ECG and SCG.
- e-tattoo is made of a piezoelectric polymer called polyvinylidene fluoride, capable of generating its own electric charge in response to mechanical stress.
- The device also includes 3D digital image correlation technology that is used to map chest vibrations in order to identify the best location on the chest to place the e-tattoo.

Q.9) The **Experimental Advanced Superconducting Tokamak (EAST)** nuclear fusion reactor is recently in news was developed by which country?

- a) USA
- b) Japan
- c) France
- d) China

ANS: D

Explanation: Scientists around the world have been trying for decades to recreate the unfathomable power of the sun here on Earth, and a team in China has managed to best our local star. Not for very long, though.

- The team operating the Experimental Advanced Superconducting Tokamak (EAST) managed to heat the reactor's internal plasma to 100 million degrees Celsius (212 million Fahrenheit).
- That's six times hotter than the sun, but it doesn't have any net power generation. In stars, hydrogen fuses into helium, and eventually into heavier elements.
- The fusion process releases large amounts of energy, and the byproducts of fusion aren't radioactive.
- The only nuclear power we've managed to utilize on Earth is fission, which requires dangerous radioactive materials and comes with the risk of a reactor meltdown.

Q.10) The "**Mission Shakti**" is recently launched by Government is related to which of the following?

- a) Promote Women welfare
- b) Promote girl child rights
- c) Promote religious rights
- d) To contain space debris

ANS: D

Explanation: Mission Shakti which was launched recently was done in a low orbit of less than 300 kilometres and at a particular angle to ensure that minimal debris was disbursed above into space to avoid damage to other satellites or the International Space Station (ISS).

Geography

Q.1) Arrange the following **water reservoirs** on Earth's surface in descending order:

1. Ground Water
2. Atmosphere
3. Soil Moisture
4. Biosphere

Select the correct answer using the code given below:

- a) 1 – 2 – 3 – 4
- b) 1 – 3 – 2 – 4
- c) 4 – 1 – 3 – 2
- d) 4 – 1 – 2 – 3

ANS: B

Explanation: About 71 per cent of the planetary water is found in the oceans. The remaining is held as freshwater in glaciers and icecaps, groundwater sources, lakes, soil moisture, atmosphere, streams and within life. Nearly 59 per cent of the water that falls on land returns to the atmosphere through evaporation from over the oceans as well as from other places. The remainder runs-off on the surface, infiltrates into the ground or a part of it becomes glacier.

Table 13.1 : Water on the Earth's surface

<i>Reservoir</i>	<i>Volume (Million Cubic km)</i>	<i>Percentage of the Total</i>
Oceans	1,370	97.25
Ice Caps and Glaciers	29	2.05
Groundwater	9.5	0.68
Lakes	0.125	0.01
Soil Moisture	0.065	0.005
Atmosphere	0.013	0.001
Streams and Rivers	0.0017	0.0001
Biosphere	0.0006	0.00004

Q.2) Which of the following are **relief features** of an Ocean Basin?

1. Plateaux
2. Submarine ridges
3. Canyons
4. Sea mounts

Select the correct answer using the code given below:

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

ANS: D

Explanation: The ocean floors can be divided into four major divisions:

- The Continental Shelf;
- The Continental Slope;
- The Deep Sea Plain;
- The Oceanic Deep.

Besides, these divisions there are also major and minor relief features in the ocean floors like ridges, hills, sea mounts, guyots, trenches, canyons, etc.

Q.3) Consider the following statements regarding the **Oceans**:

1. Around 50-80% of the oxygen production on Earth comes from the ocean.
2. The majority of this production is from oceanic plankton.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Scientists estimate that 50-80% of the oxygen production on Earth comes from the ocean.

- The majority of this production is from oceanic plankton — drifting plants, algae, and some bacteria that can photosynthesize.
- One particular species, Prochlorococcus, is the smallest photosynthetic organism on Earth.
- But this little bacteria produces up to 20% of the oxygen in our entire biosphere.
- That's a higher percentage than all of the tropical rainforests on land combined.
- It's important to remember that although the ocean produces at least 50% of the oxygen on Earth, roughly the same amount is consumed by marine life.
- Like animals on land, marine animals use oxygen to breathe, and both plants and animals use oxygen for cellular respiration.
- Oxygen is also consumed when dead plants and animals decay in the ocean.

Q.4) World's largest **dead zone** is located in which of the following sea?

- a) Black sea
- b) Gulf of Mexico
- c) Arabian Sea
- d) Coral sea

ANS: C

Explanation: A massive "dead zone" in the Arabian Sea is the largest in the world, a new study reveals.

- Dead zones are oxygen-starved ocean regions where few organisms can survive.
- They emerge in ocean depths ranging from 650 to 2,600 feet (200 to 800 meters), when influxes of chemical nutrients — typically from human pollution — spur algae growth, which sucks up oxygen.
- A significant oxygen-deprived region has bloomed in the Gulf of Oman for decades, but it was last surveyed in the 1990s.
- The Gulf of Oman, which spans 70,000 square miles (181,000 square kilometers), connects the Arabian Sea to the Persian Gulf.
- It has long been off-limits to researchers because of the region's political instability and the threat of ocean piracy.

- For eight months, these AUVs gathered data on oxygen levels, and then transmitted their readings to the scientists via satellite.
- Researchers then used computer models to visualize the ocean currents that circulated oxygen around the gulf from the Arabian Sea.
- They found that the oxygen-poor region had grown dramatically, and the scant oxygen formerly held in the depleted zone — based on data from the 1990s — had drained significantly, leaving bigger areas with no oxygen at all.

Q.5) Which of the following **rivers** are flows into Black sea?

1. Danube River
2. Southern Bug River
3. Dniester River
4. Rhone River

Select the correct answer using the code given below:

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

ANS: A

Explanation: The Black Sea is a body of water and marginal sea of the Atlantic Ocean between Eastern Europe, the Caucasus, and Western Asia. It is supplied by a number of major rivers, including the Danube, Dnieper, Southern Bug, Dniester, Don, and the Rioni.



Q.6) The highest tides in the world occur in the **Bay of Fundy** is located in which of the following country?

- a) United States of America
- b) Canada
- c) Mexico
- d) Peru

ANS: B

Explanation: The highest tides in the world occur in the Bay of Fundy in Nova Scotia, Canada.

- The tidal bulge is 15 - 16 m. Because there are two high tides and two low tides every day (roughly a 24 hour period); then a tide must come in within about a six hour period.
- As a rough estimate, the tide rises about 240 cm an hour (1,440 cm divided by 6 hours).

Q.7) Consider the following statements regarding the “**Peninsular Drainage System**”:

1. Peninsular Drainage System is older than Himalayan drainage system.
2. The Western Ghats running close to the western coast act as the water divide between the major Peninsular Rivers.
3. Chambal, Narmada and Tapi rivers flow from east to west.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: The Peninsular drainage system is older than the Himalayan one. This is evident from the broad, largely-graded shallow valleys, and the maturity of the rivers.

- The Western Ghats running close to the western coast act as the water divide between the major Peninsular Rivers, discharging their water in the Bay of Bengal and as small rivulets joining the Arabian Sea.
- Most of the major Peninsular Rivers except Narmada and Tapi flow from west to east. The Chambal, the Sind, the Betwa, the Ken, the Son, originating in the northern part of the Peninsula belong to the Ganga river system.
- The other major river systems of the peninsular drainage are – the Mahanadi the Godavari, the Krishna and the Kaveri. Peninsular rivers are characterised by fixed course, absence of meanders and non-perennial flow of water.
- The Narmada and the Tapi which flow through the rift valley are, however, exceptions.

Q.8) Consider the following statements regarding the **agro-based industries** in India:

1. The first successful textile mill was established in Mumbai in 1854.
2. The first jute mill was set up near Kolkata in 1859.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: In ancient India, cotton textiles were produced with hand spinning and handloom weaving techniques.

- After the 18th century, power-looms came into use. Our traditional industries suffered a setback during the colonial period because they could not compete with the mill-made cloth from England.
- The first successful textile mill was established in Mumbai in 1854. The two world wars were fought in Europe, India was a British colony.
- There was a demand for cloth in U.K. hence; they gave a boost to the development of the cotton textile industry.

- The first jute mill was set up near Kolkata in 1859 at Rishra.
- After Partition in 1947, the jute mills remained in India but three-fourth of the jute producing area went to Bangladesh (erstwhile East Pakistan).

Q.9) Which of the following institution implements the **Mitigation of Climate Change in Agriculture (MICCA)** programme?

- a) UNEP
- b) FAO
- c) World Bank
- d) WEF

ANS: B

Explanation: The Mitigation of Climate Change in Agriculture (MICCA) programme strengthens FAO's longstanding work to address climate change in the agriculture, forestry and fisheries sectors and supports countries participating in the climate change negotiation processes within the United Nations Framework Convention on Climate Change.

Q.10) Which of the following United Nations agency launched the "**2 Billion Kilometers to Safety campaign**"?

- a) UNICEF
- b) UNESCO
- c) UNHCR
- d) UNEP

ANS: C

Explanation: UNHCR, the UN Refugee Agency, announced a new global campaign calling on people all over the world to cover the distance travelled by refugees each year.

- The 2 Billion Kilometres to Safety campaign will encourage people to support refugees by championing individual acts of solidarity. These acts, when taken together, acknowledge the resilience and strength of refugees.
- UNHCR traced the journeys of refugees around the world and calculated that collectively, people forced to flee travel approximately two billion kilometres every year to reach the first point of safety.
- In 2016, Syrian refugees travelled more than 240 kilometres to reach Turkey. South Sudanese refugees travelled more than 640 kilometres to reach Kenya and Rohingya refugees in Myanmar travelled approximately 80 kilometres to reach Bangladesh.
- The 2 Billion Kilometres to Safety campaign invites people to act in solidarity and run, walk or cycle to achieve a cumulative total of two billion kilometres.

Environment

Q.1) The “**Cotigao Wildlife Sanctuary**” is sometimes seen in news is located in which of the following state?

- a) Kerala
- b) Assam
- c) Goa
- d) Odisha

ANS: C

Explanation: If one wants to see multi-storeyed forests with tall trees and rare plants, where hardly any light reaches the ground, Cotigao Sanctuary is the place to go to.

- It touches the border of Karnataka state and in the lean season, several gaurs are known to come into Cotigao from its neighbourhood.
- The vegetation is mostly moist-deciduous type, interspersed with semi-evergreen and evergreen patches.
- **The Cotigao Wildlife Sanctuary was established in 1969 to protect a remote and vulnerable area of forest lining the Goa- Karnataka border.**
- Encompassing 86-sq-kms of mixed deciduous woodland, the reserve is certain to inspire tree lovers, but less likely to yield many wildlife sightings: its tigers and leopards were hunted out long ago, **while the Gazelles, Sloth Bears, Porcupines, Panthers and Hyenas that allegedly lurk in the woods rarely appear.**

Q.2) Recently a **new species of dung beetle**, which is relatively large size, distinct blue colour and distinguishing characteristic of the strong sexual dimorphism, is discovered in which of the following state?

- a) Arunachal Pradesh
- b) West Bengal
- c) Tamil Nadu
- d) Rajasthan

ANS: A

Explanation: A new species of dung beetle has been discovered in Tawang district of Arunachal Pradesh.

- **The species, *Enoplotrupes tawangensis*, is shining dark blue in colour and, measuring up to 27 mm, is relatively bigger than most of the dung beetles.**
- Dung beetles belong to the super family scarabaeoidea, having clubbed antennae and pro-tibiae (pro-legs) modified for burrowing dung inside the soil.
- These groups of insects are considered beneficial to the environment as they help in nutrient cycling of the soil. Often referred to as little recyclers, these scavenger beetles require mammalian dung to survive.
- “Insects comprise almost 65% of all animal species on the planet. From India, approximately 65,000 species of insects are known, of them, more than 22,000 species are beetles.
- Dung beetles are the one of the fascinating group of insects because of their ability to bury dung deep in the soil and are indicators of the ecological health of an ecosystem”.

- Other than the relatively large size and distinct blue colour, another important distinguishing characteristic of this species is the strong sexual dimorphism, with the fronto-clypeal horn shorter in females than males.

Q.3) The “**Chakrashila wildlife sanctuary**” is sometimes seen in news is located in which of the following state?

- a) Andhra Pradesh
- b) Maharashtra
- c) Tripura
- d) Assam

ANS: D

Explanation: Chakrashila Wildlife Sanctuary is famous for being the second protected habitat of the Golden Langur.

- **Charkashila was previously a reserve forest, but in the year 1994, it was declared as a wildlife sanctuary.**
- **It covers a total area of 45.50 sq km and its jurisdiction falls under two districts – namely of Dhubri and Kokrajhar district of Assam.**
- In the Chakrashila Wildlife Sanctuary, tourists can see as many as 273 species of birds apart from 14 different species of reptiles, 60 kinds of fish and 11 species of amphibians.
- There are two lakes in the wildlife sanctuary which add to the beauty of the place. They are called Dheer Beel and Diplai Beel, and they are located on the two sides of the sanctuary.
- Chakrashila, India's first wildlife sanctuary with golden langur as the primary species.
- Chakrashila has about 600 golden langurs whose population is scattered across western Assam and the foothills of Bhutan.

Q.4) Which of the following **transport industry** releases highest CO₂ emitted per km travelled by a passenger?

- a) Air transport
- b) Rail transport
- c) Road transport
- d) Ship transport

ANS: A

Explanation: In recent months, climate activists have stepped up efforts to convince travellers to boycott **air travel**, with Swedish schoolgirl and campaigner Greta Thunberg spearheading the trains-over-planes movement and making “**flygskam**”, or flight shame, a buzzword in the Scandinavian country.

- **The industry has been under fire over its carbon emissions, which at 285 g of CO₂ emitted per km travelled by a passenger far exceed all other modes of transport.** Road transportation follows at 158 and rail travel is at 14, according to European Environment Agency figures.
- The International Civil Aviation Organization estimates that air transport is responsible for 2% of global CO₂ emissions.
- But aircraft also emit particles such as nitrogen oxides, which can trap heat at high altitude, meaning the industry is responsible for 5% of warming, according to the Climate Action Network.

- **The industry has committed to improving fuel efficiency by 1.5% per year from 2009 to 2020 and stabilising its CO₂ emissions in preparation for a 50% reduction by 2050 compared to 2005.**

Q.5) Recently, Indian scientists from the Zoological Society of London (ZSL), an international conservation charity, and University College London (UCL) have discovered **six colour morphs of the golden cat** (cinnamon, golden, gray, melanistic, ocelot and tightly rosetted) in one place in which of the following state?

- a) Arunachal Pradesh
- b) West Bengal
- c) Gujarat
- d) Karnataka

ANS: A

Explanation: Golden is no longer the only colour the elusive Asiatic golden cat can be associated with.

- **Its coat comes in five other shades in Arunachal Pradesh, scientists have discovered.**
- The Asiatic golden cat (*Catopuma temminckii*) is listed as near threatened on the International Union for Conservation of Nature's Red List of threatened species.
- It is found across eastern Nepal through north-eastern India to Indonesia.
- Indian scientists from the Zoological Society of London (ZSL), an international conservation charity, and University College London (UCL) have discovered six colour morphs of the golden cat in Dibang Valley of Arunachal Pradesh.
- **Scientists have found that its coat comes in six types: cinnamon, golden, gray, melanistic, ocelot and tightly rosetted.**

Q.6) Which of the following **mining's** is/are source of Carbon Dioxide emissions (CO₂)?

- 1. Copper mining
- 2. Bitcoin mining
- 3. Bauxite mining

Select the correct answer using the code given below:

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

ANS: D

Explanation: The use of Bitcoin — a popular virtual currency — emits over 22 megatonnes of carbon dioxide annually, comparable to the total emissions of cities such as Las Vegas and Vienna, a study has found.

- Researchers from Technical University of Munich (TUM) in Germany carried out a detailed calculation of the carbon footprint of the Bitcoin system.
- For a Bitcoin transfer to be executed and validated, a mathematical puzzle must be solved by an arbitrary computer in the global Bitcoin network. The network, which anyone can join, rewards the puzzle solvers in Bitcoin.
- The computing capacity used in this process — known as Bitcoin mining — has increased rapidly in recent years. Statistics show that it quadrupled in 2018 alone.
- Consequently, the Bitcoin boom raises the question of whether the cryptocurrency is imposing an additional burden on the climate.

- **The Bitcoin system has a carbon footprint of between 22 and 22.9 megatonnes per year. That is comparable to the footprint of such cities as Hamburg, Vienna or Las Vegas.**

Q.7) Recently **European Union** set a target of zero net greenhouse gas emissions (Climate Neutrality) by?

- a) 2025
- b) 2030
- c) 2040
- d) 2050

ANS: D

Explanation: EU leaders will this week discuss setting a target of zero net greenhouse gas emissions by 2050.

- European Union leaders met in Brussels to debate the 2050 target of “climate neutrality” that the environmental group WWF says now has the support of 16 of the EU’s 28 countries.
- “We urgently need to step up our action to manage this existential threat,” a draft of the EU’s strategic agenda for the next six years says.
- “The EU must lead the way, by engaging in an in-depth transformation of its own economy and society to achieve climate neutrality,” according to the draft.
- The draft contained a footnote, saying the wording may be adjusted to reflect the results of the summit debate, which an EU source said would focus on the 2050 target.
- The source said that a number of EU countries want more debate on financing the shift from an economy running on fossil fuels, especially those in eastern Europe, to one driven by clean energy.

Q.8) Recently the “**Bangkok declaration**” is in news is related to which of the following?

- a) Marine debris
- b) Deep sea fishing
- c) Forest fires
- d) Solar Waste

ANS: A

Explanation: With Southeast Asia awash in rubbish, from plastic-choked whales to trash-clogged canals, leaders are planning to push through a deal to fight maritime debris at a regional meeting in June 2019.

- Just five Asian countries — China, Indonesia, the Philippines, Vietnam and Thailand — dump more than half of the eight million tonnes of plastic waste that end up in oceans every year, according to a 2017 Ocean Conservancy report.
- The region has come under fire for not doing enough to tackle its mounting trash troubles, with single-use plastic and sub-par waste management adding to the problem.
- **Leaders at a weekend meeting of the Association of Southeast Asian Nations (ASEAN) are expected to sign a “Bangkok Declaration” on fighting maritime waste — a first of its kind — which promises to “prevent and significantly reduce marine debris”.**

Q.9) The term “**Day Zero**” often seen in news is related to which of the following?

- a) Water scarcity

- b) Earth's gravity
- c) Carbon emission
- d) Solar energy

ANS: A

Explanation: The day when a city's taps dry out and people have to stand in line to collect a daily quota of water.

- **Through most of June, this has been the situation in Chennai, one of India's major cities facing an acute, unprecedented water shortage.**
- Many other big cities, including the national capital Delhi, are likely to run out of groundwater by next year, according to India's policy making body NITI Aayog's recent assessment.
- In all, 600 million people are facing the worst water crisis in the history of India.
- Adding to the woes is the gloomy prediction that by 2030, the overall demand for water in India will double. "Forty per cent of the population would have no access to drinking water by 2030," the report warns.

Q.10) The "**Living Planet Report**" is published by which among the following organization?

- a) Global Environment Facility
- b) IUCN
- c) World Wide Fund for Nature (WWF)
- d) World Economic Forum

ANS: C

Explanation: The World Wide Fund for Nature (WWF) is an international non-governmental organization founded in 1961, working in the field of wilderness preservation, and the reduction of human impact on the environment.

- It was formerly named the World Wildlife Fund, which remains its official name in Canada and the United States.
- WWF aims to "stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature."
- The Living Planet Report is published every two years by WWF since 1998; it is based on a Living Planet Index and ecological footprint calculation.
- In addition, WWF has launched several notable worldwide campaigns including Earth Hour and Debt-for-Nature Swap, and its current work is organized around these six areas: food, climate, freshwater, wildlife, forests, and oceans.

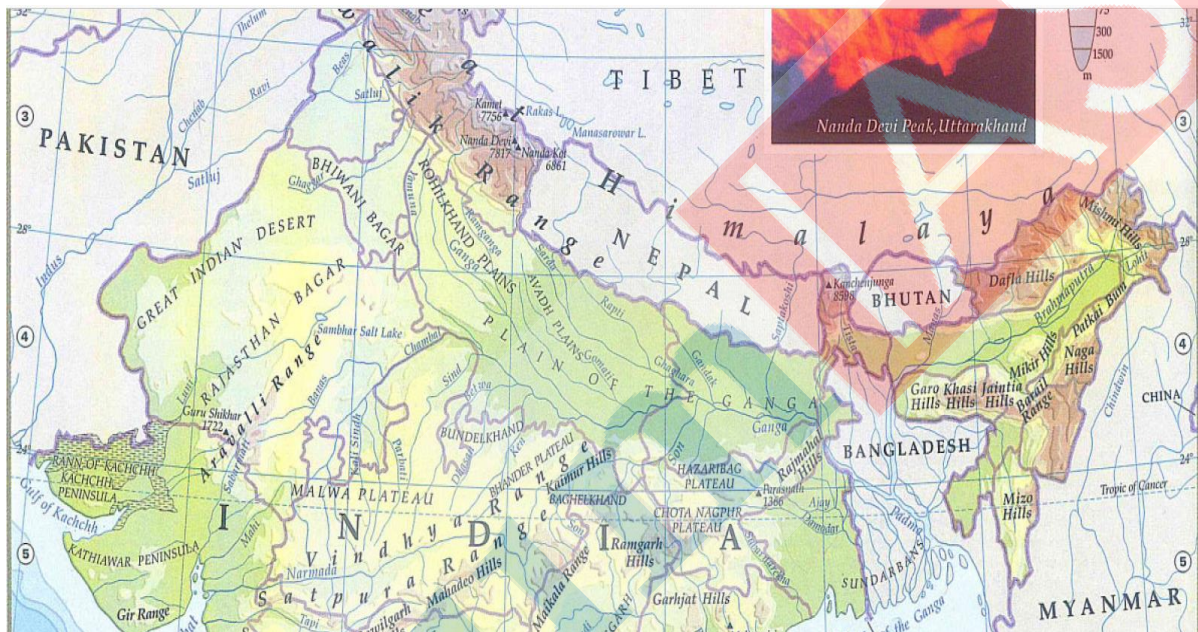
Map Based Questions

Q.1) Which of the following river **rises north** of the tropic of cancer in India?

- a) Mahi River
- b) Chambal River
- c) Parbati River
- d) Dhasan River

ANS: D

Explanation:



Q.2) Arrange the following **hills** from east to west direction:

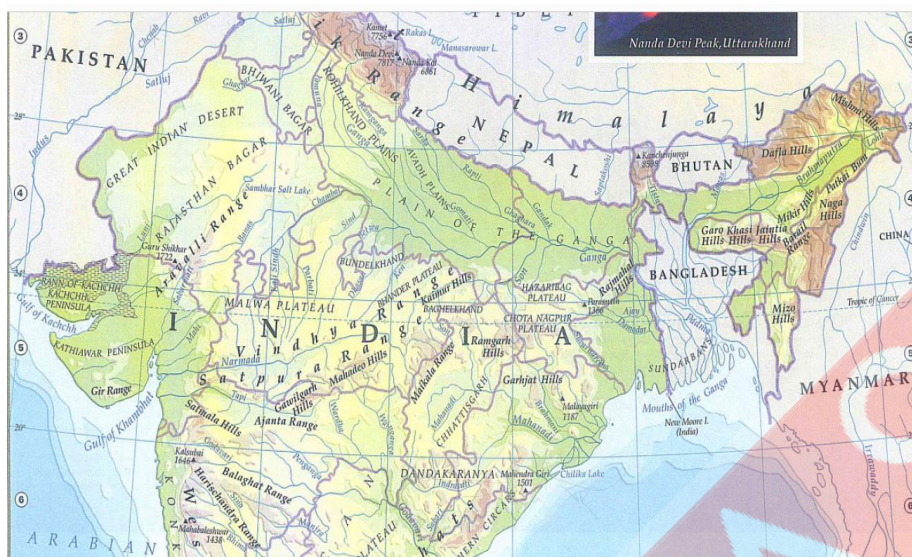
- 1. Ramgarh hills
- 2. Gawilgarh hills
- 3. Mahadeo hills
- 4. Satmala hills

Select the correct answer using the code given below:

- a) 1 – 2 – 3 – 4
- b) 1 – 3 – 2 – 4
- c) 3 – 1 – 2 – 4
- d) 4 – 1 – 3 – 2

ANS: B

Explanation:



Q.3) Arrange the following **cultural world heritage sites** in India from north to south direction:

1. Elephanta caves
2. Pattadakal monuments
3. Hampi
4. Mahabalipuram monuments

Select the correct answer using the code given below:

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

ANS: A

Explanation:



Q.4) The “**keeladi excavation site**” is sometimes seen in news is located in which of the following state?

- a) Kerala
- b) Tamil Nadu
- c) Karnataka
- d) Andhra Pradesh

ANS: B

Explanation: Archaeologists have been busy digging out the treasures buried in Keeladi, a village in Sivaganga district of Tamil Nadu, and historians and anthropologists are now interpreting the rich finds from the Sangam era.

- This is the fifth phase of excavations, and it has revealed many more artefacts and engineering designs.
- The fourth phase had established that the antiquities unearthed here could date from the 6th century BCE to the 1st century CE.
- The present phase has shed more light, particularly on the advanced engineering techniques used then, “establishing that there was a culture and civilisation” in the region, as one archaeologist puts it.
- This is the first time that such a large-scale excavation on a ‘habitational mount’ has been carried out in Tamil Nadu.
- The excavations offer insights into engineering techniques that are more than 2,000 years ago.

Q.5) Arrange the following **tiger reserves** from south to north direction:

1. Anaimalai
2. Bandipur
3. Bhadra
4. Mudumalai

Select the correct answer using the code given below:

- a) 1 – 2 – 3 – 4
- b) 4 – 1 – 3 – 2
- c) 1 – 4 – 2 – 3
- d) 4 – 1 – 2 – 3

ANS: C

Explanation:



Q.6) Which of the following pairs is/are correctly matched?

Pilgrimage centre : State

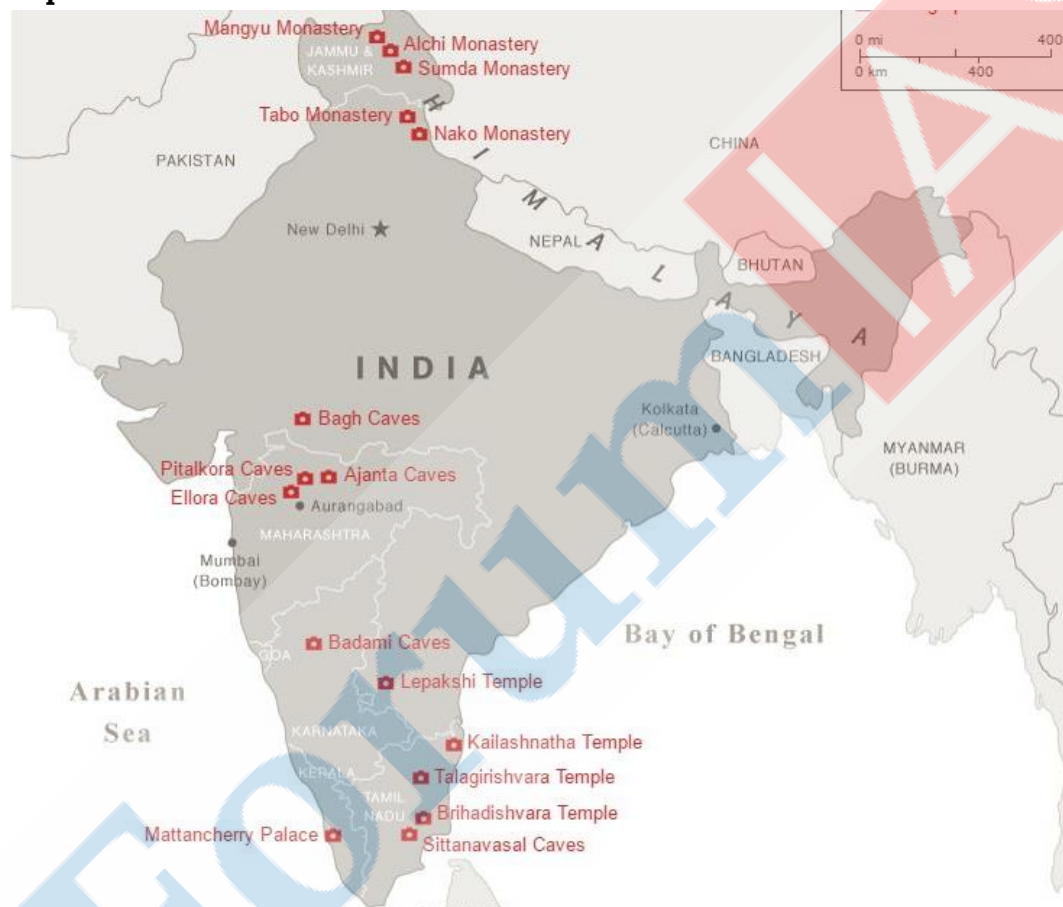
1. Lepakshi temple : Karnataka
2. Nako Monastery : Arunachal Pradesh
3. Kailashnath temple: Andhra Pradesh

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 3 only
- d) None

ANS: D

Explanation:



Q7. Arrange the following Indus Valley Civilization sites from East to West direction:

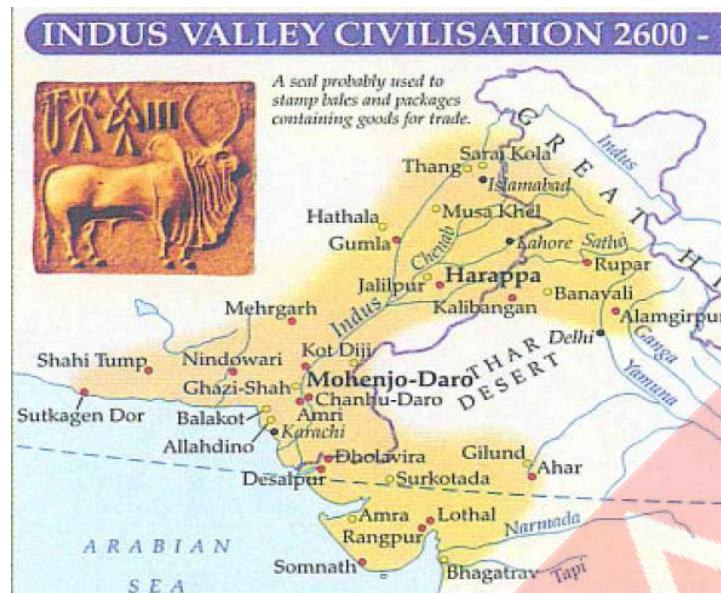
1. Alamgirpur
2. Jilalpur
3. Shahi Tump

Select the correct answer using the code given below:

- a) 1 – 3 – 2
- b) 3 – 2 – 1
- c) 1 – 2 – 3
- d) 3 – 1 – 2

ANS: C

Explanation:



Q.8) Arrange the following **capital cities** from north to south direction:

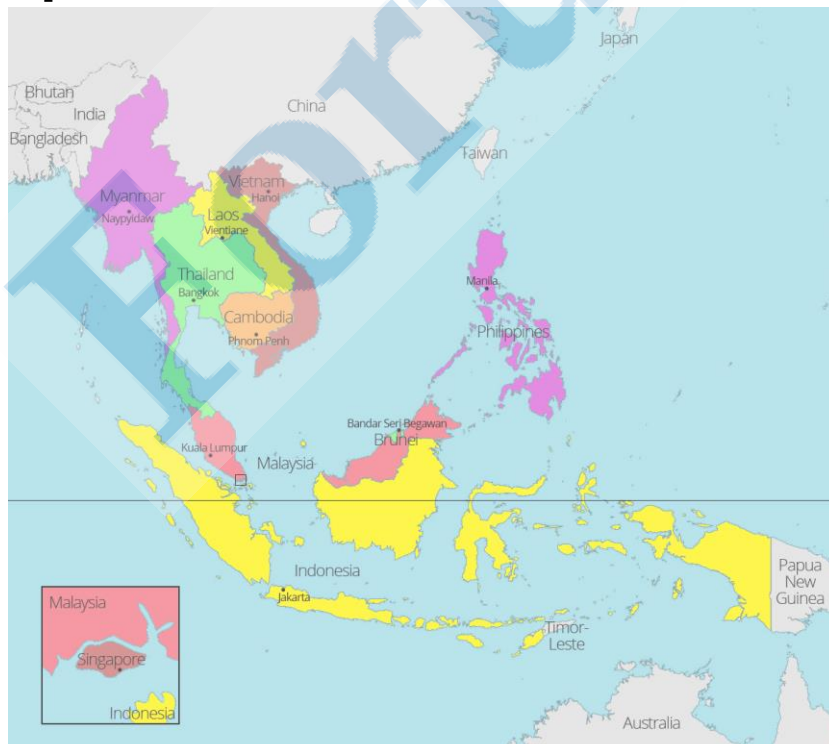
1. Phnom Penh
2. Bangkok
3. Myanmar
4. Hanoi

Select the correct answer using the code given below:

- a) 4 – 3 – 2 – 1
- b) 3 – 4 – 2 – 1
- c) 3 – 2 – 1 – 4
- d) 4 – 2 – 3 – 1

ANS: A

Explanation:



Q.9) Which of the following river is **not** flow through Punjab before entering Pakistan?

- a) Satluj
- b) Ravi
- c) Chenab
- d) Beas

ANS: C

Explanation:



Q.10) Arrange the following **alluvium deposits** from north to south:

- 1. Tarai
- 2. Khaddar
- 3. Bhangar
- 4. Bhabar

Select the correct answer using the code given below:

- a) 2 – 3 – 4 – 1
- b) 4 – 1 – 3 – 2
- c) 3 – 1 – 4 – 2
- d) 2 – 4 – 3 – 1

ANS: B

Explanation: The northern plains are formed by the alluvial deposits brought by the rivers – the Indus, the Ganga and the Brahmaputra.

- These plains extend approximately 3,200 km from the east to the west. The average width of these plains varies between 150-300 km.
- The maximum depth of alluvium deposits varies between 1,000-2,000 m. From the north to the south, these can be divided into three major zones: the Bhabar, the Tarai and the alluvial plains. The alluvial plains can be further divided into the Khadar and the Bhangar.
- Bhabar is a narrow belt ranging between 8-10 km parallel to the Shiwalik foothills at the break-up of the slope.
- As a result of this, the streams and rivers coming from the mountains deposit heavy materials of rocks and boulders, and at times, disappear in this zone.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF 3rd TO 9th AUGUST, 2020

- South of the Bhabhar is the Tarai belt, with an approximate width of 10-20 km where most of the streams and rivers re-emerge without having any properly demarcated channel, thereby, creating marshy and swampy conditions known as the Tarai.
- This has a luxurious growth of natural vegetation and houses a varied wildlife.
- The south of Tarai is a belt consisting of old and new alluvial deposits known as the Bhangar and Khadar respectively.
- These plains have characteristic features of mature stage of fluvial erosional and depositional landforms such as sand bars, meanders, oxbow lakes and braided channels.
- The Brahmaputra plains are known for their riverine islands and sand bars. Most of these areas are subjected to periodic floods and shifting river courses forming braided streams.

