

**skhōlar**

**UPSC CSE 2019**

**Answer key & Explanation**

1. With reference to Asian Infrastructure Investment Bank (AIIB), consider the following statements
1. AIIB has more than 80 member nations.
  2. India is the largest shareholder in AIIB.
  3. AIIB does not have any members from outside Asia.
- Which of the statements given above is / are correct?

- (1) 1 only
- (2) 2 and 3 only
- (3) 1 and 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

Statement I is correct: At present AIIB has 97 members

Statement II is incorrect: China has the largest shareholder, and India is the second largest shareholder

Statement III is incorrect: AIIB has members outside Asia such as Australia, members from Africa, North and South America and Europe

Source: Website of AIIB

2. What was the purpose of Inter-Creditor Agreement signed by Indian banks and financial institutions recently?
- (1) To lessen the Government of India's perennial burden of fiscal deficit and current account deficit
  - (2) To support the infrastructure projects of Central and State Governments
  - (3) To act as independent regulator in case of applications for loans of Rs. 50 crore or more
  - (4) To aim at faster resolution of stressed assets of Rs. 50 crore or more which are under consortium lending

Answer key: 4

Solution:

Recently a group of banks, including public sector, private sector and foreign banks, signed an inter-creditor agreement to push for the speedy resolution of non-performing loans on their balance sheets.

The inter-creditor agreement is aimed at the resolution of loan accounts with a size of ₹50 crore and above that are under the control of a group of lenders. It is part of the "Sashakt" plan approved by the government to address the problem of resolving bad loans.

Source: The Hindu

3. The Chairmen of public sector banks are selected by the
- (1) Banks Board Bureau
  - (2) Reserve Bank of India
  - (3) Union Ministry of Finance
  - (4) Management of concerned bank

Answer key: 1

Solution:

As part of its mandate, Bank Board Bureau recommends the members for top executive body of the Public Sector Banks including CEO and chairmen.

Source: Live Mint

4. Consider the following statements:
1. Petroleum and Natural Gas Regulatory Board (PNGRB) is the first regulatory body set up by the Government of India.
  2. One of the tasks of PNGRB is to ensure competitive markets for gas.
  3. Appeals against the decisions of PNGRB go before the Appellate Tribunals for Electricity.
- Which of the statements given above are correct?

- (1) 1 and 2 only
- (2) 2 and 3 only
- (3) 1 and 3 only
- (4) 1, 2 and 3

Answer key: 2

Solution:

Statement I is incorrect: The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006. It was established in 2006, and India has many regulatory body set up way before 2006.

Statement II is correct: The Act provide for the establishment of PNGRB to protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets and for matters connected therewith or incidental thereto.

Statement III is correct: It also has power of civil court and a legal bench which decides on disputes arising among downstream companies or with outsiders. Appels against the decision shall go before Appellate Tribunals for Electricity.

Source: Website of PNGRB

5. With reference to communication technologies, what is/are the difference / differences between LTE (Long-Term Evolution) and VoLTE (Voice over Long-Term Evolution)?

1. LTE is commonly marketed as 3G and VoLTE is commonly marketed as advanced 3G.

2. LTE is data-only technology and VoLTE is voice-only technology.

Select the correct answer using the code given below.

(1) 1 only

(2) 2 only

(3) Both 1 and 2

(4) Neither 1 nor 2

Answer key: 4

Solution:

Statement I is incorrect: 4G (or fourth generation) is just a common name given to LTE technology. In short, 4G and LTE are synonyms.

Statement II is incorrect: VoLTE is a technology wherein you can simultaneously send voice and data over the network without diminishing quality of voice. In case of LTE, if you make a voice call and you also keep your data connection on, the quality of voice will reduce. So, in order to make a good quality voice call, you will have to switch off data.

Source: NDTV

6. Which of the following statements is / are correct regarding the Maternity Benefit (Amendment) Act, 2017?

1. Pregnant women are entitled for three months pre-delivery and three months post-delivery paid leave.

2. Enterprises with creches must allow the mother minimum six creche visits daily.

3. Women with two children get reduced entitlements.

Select the correct answer using the code given below.

(1) 1 and 2 only

(2) 2 only

(3) 3 only

(4) 1, 2 and 3

Answer key: 3

Solution:

Statement I is incorrect: The Maternity Benefit (Amendment) Act 2017 entitles the maternity leave for women employees for 26 weeks. The paid maternity leave can be availed 8 weeks before the expected date of delivery.

Statement II is incorrect: As per the act every establishment employing 50 or more employees is mandated to have crèche facility. The women employees should be permitted to visit at the facility at least 4 times during the day.

Statement III is correct: Women who are expecting to have child after having 2 children, the duration of the leave is 12 weeks.

Source: Website of Ministry of Labour

7. Which one of the following is **not** a sub-index of the World Bank's 'Ease of Doing Business Index'?

(1) Maintenance of law and order

(2) Paying taxes

(3) Registering property

(4) Dealing with construction permits

Answer key: 1

Solution:

The Ease of Doing Business Index has sub-indexes of Paying taxes, registering property, dealing with construction permits, starting a business, getting electricity, getting credit, trading across border etc.

Source: World Bank Website

8. In India, 'extended producer responsibility' was introduced as an important feature in which of the following?

(1) The Bio-medical Waste (Management and Handling) Rules, 1998

(2) The Recycled plastic (Manufacturing and Usage) Rules, 1999

(3) The e-Waste (Management and Handling) Rules, 2011

(4) The Food Safety and Standard Regulations, 2011

Answer key: 3

Solution:

Extended producer's responsibility (EPR) is main feature of the E-waste (Management and Handling) Rules, 2011, wherein the producer of electrical and electronic equipment was given the responsibility of managing such equipment after its 'end of life'.

Source: CPCB website

9. The economic cost of food grains to the Food Corporation of India is Minimum Support Price and bonus (if any) paid to the farmers plus

(1) transportation cost only

(2) interest cost only

(3) procurement incidentals and distribution cost

(4) procurement incidentals and charges for godowns

Answer key: 3

Solution:

The economic cost of food grains to FCI includes the MSPs, State-level levies, which account for almost 50 percent of the procurement incidentals for food grains, and distribution costs.

Source: indiabudget.nic.in

10. In the context of any country, which one of the following would be considered as part of its social capital?

(1) The proportion of literates in the population

(2) The stock of its buildings, other infrastructure and machines

(3) The size of population in the working age group

(4) The level of mutual trust and harmony in the society

Answer key: 4

Solution:

Social capital is the links, shared values and understandings in society that enable individuals and groups to trust each other and so work together.

Source: OECD website

11. The Service Area Approach was implemented under the purview of

(1) Integrated Rural Programme

(2) Lead Bank Scheme

(3) Mahatma Gandhi National Rural Employment Guarantee Scheme

(4) National Skill Development Mission

Answer key: 2

Solution:

Service area approach (SAA) is an improved version of area approach of Lead Bank Scheme.

Source: RBI website

12. With reference to the management of minor minerals in India, consider the following statements:

1. Sand is a 'minor mineral' according to the prevailing law in the country.

2. State Governments have the power to grant mining leases of minor minerals, but the powers regarding the formation of rules related to the grant of minor minerals lie with the Central Government.

3. State Governments have the power to frame rules to prevent illegal mining of minor minerals.

Which of the statements given above is / are correct?

- (1) 1 and 3 only
- (2) 2 and 3 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

Statement I is correct: According to section 3(e) of the Mines and Minerals (Development and Regulation) Act, 1957 "Minor Minerals" means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purpose.

Statement II is incorrect and III is correct: The Regulatory and administrative jurisdiction of minor minerals falls under the purview of State governments. These include the powers to frame rules, prescribe rates of royalty, contribution to District Mineral Foundation, the procedure for grant of mineral concessions, regulation of their mining, control of illegal mining etc.

Source: Arthapedia website

13. Consider the following statements:

- 1. Most of India's external debt is owed by governmental entities.
- 2. All of India's external debt is denominated in US dollars.

Which of the statements given above is / are correct?

- (1) 1 only
- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 4

Solution:

Statement I is incorrect: External Government debt stands at USD 111.9 billion, and non-government external debt stands at USD 417.7 billion.

Statement II is incorrect: US dollar denominated debt continued to be the largest component of India's external debt with a share of 49.5 per cent at end-March 2018, followed by the Indian rupee (35.8 per cent), SDR (5.5 per cent), Japanese yen (4.8 per cent) and euro (3.4 per cent).

Source: RBI website

14. Which of the following is not included in the assets of a commercial bank in India?

- (1) Advances
- (2) Deposits
- (3) Investments
- (4) Money at call and short notice

Answer key: 2

Solution:

Items included in the assets of the commercial banks in India are cash in hand, cash at the RBI, Money at call and short notice, bills discounted, government securities, investments, loans and advances etc...

Source: RBI website

15. In the context of India, which of the following factors is/are contributor/ contributors to reducing the risk of a currency crisis?

- 1. The foreign currency earnings of India's IT sector
- 2. Increasing the government expenditure
- 3. Remittances from Indians abroad

Select the correct answer using the code given below.

- (1) 1 only
- (2) 1 and 3 only
- (3) 2 only
- (4) 1, 2 and 3

Answer key: 2

Solution:

Indian IT sector and remittances from Indian abroad bring huge forex reserves to India, thus both contributes in reducing the currency crises in India. Increasing expenditure will result in deficits. So, statement 2 is incorrect.

Source: RBI

16. Which one of the following suggested that the Governor should be an eminent person from outside the State and should be a detached figure without intense political links or should not have taken part in politics in the recent past?

- (1) First Administrative Reforms Commission (1966)
- (2) Rajamannar Committee (1969)
- (3) Sarkaria Commission (1983)
- (4) National Commission to Review the Working of the Constitution (2000)

Answer key: 3

Solution:

The Sakaria Commission describes appointment of Governor should be:

'The Governor should be eminent in some walk of life and from outside the state. He should be a detached figure without intense political links or should not have taken part in politics in recent past. Besides, he should not be a member of the ruling party.'

Source: The Wire

17. Which of the following is issued by registered foreign portfolio investors to overseas investors who want to be part of the Indian stock market without registering themselves directly?

- (1) Certificate of Deposit
- (2) Commercial Paper
- (3) Promissory Note
- (4) Participatory Note

Answer key: 4

Solution:

Participatory notes also referred to as P-Notes, or PNs, are financial instruments required by investors or hedge funds to invest in Indian securities without having to register with the Securities and Exchange Board of India (SEBI). P-Notes are among the group of investments considered to be Offshore Derivative Investments (ODIs).

Source: Investopedia

18. Consider the following statements

1. As per law, the Compensatory Afforestation Fund Management and Planning Authority exists at both National and State levels.
2. People's participation is mandatory in the compensatory afforestation programmes carried out under the Compensatory Afforestation Fund Act, 2016.

Which of the statements given above is / are correct?

- (1) 1 only
- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 1

Solution:

Statement I is correct: Compensatory Afforestation Fund Act, 2016 establishes National CAMPA Advisory Council a national level and The State CAMPA at state level.

Statement II is incorrect: People's participation is not mandatory.

Source: MoEFCC website

19. In India, which of the following review the independent regulators in sectors like telecommunications, insurance, electricity, etc.?

1. Ad Hoc Committees set up by the Parliament
2. Parliamentary Department Related Standing Committees
3. Finance Commission
4. Financial Sector Legislative Reforms Commission
5. NITI Aayog

Select the correct answer using the code given below.

- (1) 1 and 2
- (2) 1, 3 and 4
- (3) 3, 4 and 5
- (4) 2 and 5

Answer key: 1

Solution:

Broadly, parliamentary committees are of two kinds—Standing Committees and Ad Hoc Committees. The former are permanent (constituted every year or periodically) and work on a continuous basis, while the latter are temporary and cease to exist on completion of the task assigned to them.

Department-related Standing Committees (DRSCs) were set up in the Parliament in 1993. In 2004, seven more such committees were setup, thus increasing their number from 17 to 24. The main objective of the standing committees is to secure more accountability of the Executive (i.e., the Council of Ministers) to the Parliament, particularly financial accountability. They also assist the Parliament in debating the budget more effectively.

Source: Indian Polity by Laxmikanth

20. With reference to India's Five-Year Plans, which of the following statements is/are correct?
1. From the Second Five-Year Plan, there was a determined thrust towards substitution of basic and capital good industries.
  2. The Fourth Five-Year Plan adopted the objective of correcting the earlier trend of increased concentration of wealth and economic power.
  3. In the Fifth Five-Year Plan, for the first time, the financial sector was included as an integral part of the Plan.

Select the correct answer using the code given below.

- (1) 1 and 2 only
- (2) 2 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

1. Statement I is correct: The Second-Five-year plan largely focused on rapid industrialisation with particular emphasis on the development of basic and heavy industries.

2. Statement II is correct: Correcting the trend of increased concentration of wealth and economic power was one of the objectives of Fourth-Five-Year plan.

3. Statement III is incorrect: Financial sector was integral part of Forth-Five year plan, because 14 major banks were nationalised under it.

Source: [planningcommission.nic.in](http://planningcommission.nic.in)

21. With reference to the Constitution of India, consider the following statements:
1. No High Court shall have the jurisdiction to declare any central law to be constitutionally invalid.
  2. An amendment to the Constitution of India cannot be called into question by the Supreme Court of India.
- Which of the statements given above is / are correct?
- (1) 1 only
  - (2) 2 only
  - (3) Both 1 and 2
  - (4) Neither 1 nor 2

Answer key: 4

Solution:

Statement I is incorrect: High Courts have jurisdiction on both central and state laws.

Statement II is incorrect: Judicial review is applicable to constitutional amendment also.

Source: Indian Constitution by Laxmikanth

22. Consider the following statements
1. Purchasing Power Parity (PPP) exchange rates are calculated by comparing the prices of the same basket of goods and services in different countries.
  2. In terms of PPP dollars, India is the sixth largest economy in the world.
- Which of the statements given above is / are correct?
- (1) 1 only
  - (2) 2 only
  - (3) Both 1 and 2
  - (4) Neither 1 nor 2

Answer key: 1

Solution:

Statement I is correct: PPP is an economic theory that compares different countries' currencies through a same "basket of goods" approach.

Statement II is incorrect: India is third largest economy in terms of PPP dollars.

Source: Investopedia

23. With reference to the cultivation of Kharif crops in India in the last five years, consider the following statements:

1. Area under rice cultivation is the highest.
2. Area under the cultivation of jowar is more than that of oilseeds.
3. Area of cotton cultivation is more than that of sugarcane.
4. Area under sugarcane cultivation has steadily decreased.

Which of the statements given above are correct?

- (1) 1 and 3 only
- (2) 2, 3 and 4 only
- (3) 2 and 4 only
- (4) 1, 2, 3 and 4

Answer key: 1

Solution:

Statement I is correct: PPP is an economic theory that compares different countries' currencies through a same "basket of goods" approach.

Statement II is incorrect: India is third largest economy in terms of PPP dollars.

Average Area under cultivation for rice - 380 lack acers, jowar - 17.6 lack acers, oilseeds - 166 lack acers, sugarcane - 50 lack acers and cotton - 119 lack acers.

Area under cultivation under sugarcane has increased in 2018-19, and it hasn't decreased steadily in last five years.

Source: Business Line & Investopedia

24. Among the agricultural commodities imported by India, which one of the following accounts for the highest imports in terms of value in the last five years?

- (1) Spices
- (2) Fresh fruits
- (3) Pulses
- (4) Vegetable oils

Answer key: 4

Solution:

The import bill of edible oil is around Rs.70,000 crores per year.

Source: Down To Earth

25. In the context of polity, which one of the following would you accept as the most appropriate definition of liberty?

- (1) Protection against the tyranny of political rulers
- (2) Absence of restraint
- (3) Opportunity to do whatever one likes
- (4) Opportunity to develop oneself fully.

Answer key: 2

Solution:

The term 'liberty' means the absence of restraints on the activities of individuals, and at the same time, providing opportunities for the development of individual personalities.

Source: Indian Polity by Laxmikanth

26. Which one of the following is not the most likely measure the Government/RBI takes to stop the slide of Indian rupee?

- (1) Curbing imports of non-essential goods-and promoting exports
- (2) Encouraging Indian borrowers to issue rupee denominated Masala Bonds
- (3) Easing conditions relating to external commercial borrowing
- (4) Following an expansionary monetary policy

Answer key: 4

Solution:

Due to expansionary policy, the demand increases thus increasing the demand for dollars, which would further slide the Indian rupee.

Source: Economic Survey, 2016-17.

27. Consider the following statements:

The Reserve Bank of India's recent directives relating to 'Storage of Payment System Data', popularly known as data diktat, command the payment system providers that

1. they shall ensure that entire data relating to payment systems operated by them are stored in a system only in India
2. they shall ensure that the systems are owned and operated by public sector enterprises
3. they shall submit the consolidated system audit report to the Comptroller and Auditor General of India by the end of the calendar year

Which of the statements given above is/are correct?

- (1) 1 only
- (2) 1 and 2 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

It is observed that not all system providers store the payments data in India. In order to ensure better monitoring, it is important to have unfettered supervisory access to data stored with these system providers as also with their service providers / intermediaries/ third party vendors and other entities in the payment ecosystem. It has, therefore, been decided that all system providers shall ensure that the entire data relating to payment systems operated by them are stored in a system only in India.

Source: RBI website

28. Which of the following adopted a law on data protection and privacy for its citizens known as 'General Data Protection Regulation' in April 2016 and started implementation of it from 25th May, 2018?

- (1) Australia
- (2) Canada
- (3) The European Union
- (4) The United States of America

Answer key: 3

Solution:

The General Data Protection Regulation was adopted by European Union. GDPR requirements apply to each member state of the European Union, aiming to create more consistent protection of consumer and personal data across EU nations. Some of the key privacy and data protection requirements of the GDPR include:

Requiring the consent of subjects for data processing

Anonymizing collected data to protect privacy

Providing data breach notifications

Safely handling the transfer of data across borders

Requiring certain companies to appoint a data protection officer to oversee GDPR compliance

Source: Digital Guardian & EU website

29. Recently, India signed a deal known as 'Action Plan for Prioritization and Implementation of Cooperation Areas in the Nuclear Field' with which of the following countries?

- (1) Japan
- (2) Russia
- (3) The United Kingdom
- (4) The United States of America

Answer key: 2

Solution:

During the visit of H. E. Vladimir Putin, President of the Russian Federation to India, Action Plan for Prioritization and Implementation of Co-operation Areas in the Nuclear Field Identified Jointly by India and Russia was signed on 5th October, 2018 in New Delhi.

Source: PIB

30. The money multiplier in an economy increases with which one of the following?

- (1) Increase in the cash reserve ratio
- (2) Increase in the banking habit of the population
- (3) Increase in the statutory liquidity ratio
- (4) Increase in the population of the country

Answer key: 2

Solution:

The size of the money multiplier depends on the percentage of deposits that banks are required to hold as reserves.

Source: Investopedia

31. Consider the following statements about Particularly Vulnerable Tribal Groups (PVTGs) in India:

1. PVTGs reside in 18 States and one Union Territory.
2. A stagnant or declining population is one of the criteria for determining PVTG status.
3. There are 95 PVTGs officially notified in the country so far.
4. Irular and Konda Reddi tribes are included in the list of PVTGs.

Which of the statements given above are correct?

- (1) 1, 2 and 3
- (2) 2, 3 and 4
- (3) 1, 2 and 4
- (4) 1, 3 and 4

Answer key: 3

Solution:

75 tribal groups have been categorized by Ministry of Home Affairs as Particularly Vulnerable Tribal Groups (PVTGs). PVTGs reside in 18 States and UT of A&N Islands.

Certain tribal groups have some specific features such as dependency on hunting, gathering for food, having pre-agriculture level of technology, zero or negative growth of population and extremely low level of literacy. These groups are called Particularly Vulnerable Tribal Groups.

Source: Ministry of Tribal Affairs

32. With reference to the Constitution of India, prohibitions or limitations or provisions contained in ordinary laws cannot act as prohibitions or limitations on the constitutional powers under Article 142. It could mean which one of the following:

- (1) The decisions taken by the Election Commission of India while discharging its duties cannot be challenged in any court of law.
- (2) The Supreme Court of India is not constrained in the exercise of its powers by laws made by the Parliament.
- (3) In the event of grave financial crisis in the country, the President of India can declare Financial Emergency without the counsel from the Cabinet.
- (4) State Legislatures cannot make laws on certain matters without the concurrence of Union Legislature.

Answer key: 2

Article 142 states about the enforcement of decrees and orders of Supreme Court.

Source: Indian Polity by DD Basu

33. With reference to the Legislative Assembly of a State in India, consider the following statements:

1. The Governor makes a customary address to Members of the House at the commencement of the first session of the year.
2. When a State Legislature does' not have a rule on a particular matter, it follows the Lok Sabha rule on that matter.

Which of the statements given above is / are correct?

- (1) 1 only
- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 3

Solution:

Governor address the House in both at the commencement of the first session of the year and the commencement of first session of newly elected assembly.

If state legislature does not have any rule on a particular matter, it has option to follow the Lok Sabha rule on that matter.

Source: Indian Polity by DD Basu

34. Consider the following statements:

1. The United Nations Convention against Corruption (UNCAC) has a 'Protocol against the Smuggling of Migrants by Land, Sea and Air'.
2. The UNCAC is the ever-first legally binding global anti-corruption instrument.
3. A highlight of the United Nations Convention against Transnational Organized Crime (UNTOC) is the inclusion of a specific chapter aimed at returning assets to their rightful owners from whom they had been taken illicitly.
4. The United Nations Office on Drugs and Crime (UNODC) is mandated by its member States to assist in the implementation of both UNCAC and UNTOC.

Which of the statements given above are correct?

- (1) 1 and 3 only
- (2) 2, 3 and 4 only
- (3) 2 and 4 only
- (4) 1, 2, 3 and 4

Answer key: 3

Solution:

The United Nations Convention against Corruption is the only legally binding universal anti-corruption instrument.

The Convention covers five main areas: preventive measures, criminalization and law enforcement, international cooperation, asset recovery, and technical assistance and information exchange.

The Convention covers many different forms of corruption, such as bribery, trading in influence, abuse of functions, and various acts of corruption in the private sector.

A highlight of the Convention is the inclusion of a specific chapter on asset recovery, aimed at returning assets to their rightful owners, including countries from which they had been taken illicitly.

The Conference of the States Parties (COSP) is the main policy-making body of the Convention, supporting States parties and signatories in their implementation of the Convention and giving policy guidance to UNODC to develop and implement anti-corruption activities. The actual implementation of the Convention into domestic law by States parties is evaluated through a unique peer-review process, the Implementation Review Mechanism.

Source: Website of UNCAC

35. Consider the following statements:

1. As per recent amendment to the Indian Forest Act, 1927, forest dwellers have the right to fell the bamboos grown on forest areas.
2. As per the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, bamboo is a minor forest produce.
3. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 allows ownership of minor forest produce to forest dwellers.

Which of the statements given above is / are correct?

- (1) 1 and 2 only
- (2) 2 and 3 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 4

Solution:

Recently Bamboo was removed from timber and added in as the Minor Forest Produce, and taxonomically it is a grass.

Source: Yojana

36. Which Article of the Constitution of India safeguards one's right to marry the person of one's choice?

- (1) Article 19
- (2) Article 21
- (3) Article 25
- (4) Article 29

Answer key: 2

Solution:

The right to marry a person of one's choice is integral to Article 21 (right to life and liberty) of the Constitution

Source: The Indian Express

37. Consider the following statements:

1. According to the Indian Patents Act, a biological process to create a seed can be patented in India.

2. In India, there is no Intellectual Property Appellate Board.

3. Plant varieties are not eligible to be patented in India.

Which of the statements given above is/are correct?

(1) 1 and 3 only

(2) 2 and 3 only

(3) 3 only

(4) 1, 2 and 3

Answer key: 3

Solution:

Biological process of to create a seed cannot be patented and India has a Intellectual Property Appellate Body.

Plant varieties cannot be patented in India.

Patents related to seeds are governed by India Seed Act not Indian Patent act.

Source: The Hindu

38. Consider the following statements:

The Environment Protection Act, 1986 empowers the Government of India to

1. state the requirement of public participation in the process of environmental protection, and the procedure and manner in which it is sought

2. lay down the standards for emission or discharge of environmental pollutants from various sources

Which of the statements given above is/are correct?

(1) 1 only

(2) 2 only

(3) Both 1 and 2

(4) Neither 1 nor 2

Answer key: 2

Solution:

The Environment Act, the Central Government is empowered to take measures necessary to protect and improve the quality of environment by setting standards for emissions and discharges of pollution in the atmosphere by any person carrying on an industry or activity; regulating the location of industries; management of hazardous wastes, and protection of public health and welfare. Procedure and manner are not mentioned.

Source: moef.nic.in

39. As per the Solid Waste Management Rules, 2016 in India, which one of the following statements is correct?

(1) Waste generator has to segregate waste into five categories.

(2) The Rules are applicable to notified urban local bodies, notified towns and all industrial townships only.

(3) The Rules provide for exact and elaborate criteria for the identification of sites for landfills and waste processing facilities.

(4) It is mandatory on the part of waste generator that the waste generated in one district cannot be moved to another district.

Answer key: 3

Solution:

Summer of Rules and Elaborate criteria for identification of sites for landfills and waste processing facilities:

As per the new rules, it has been advised that the bio-degradable waste should be processed, treated and disposed of through composting or bio-methanation within the premises as far as possible and the residual waste shall be given to the waste collectors or agency as directed by the local authority. The developers of Special Economic Zone, industrial estate, industrial park to

earmark at least 5 per cent of the total area of the plot or minimum 5 plots/ sheds for recovery and recycling facility.

Waste processing facilities will have to be set up by all local bodies having a population of 1 million or more within two years. For census towns with a population below 1 million or for all local bodies having a population of 0.5 million or more, common, or stand-alone sanitary landfills will have to be set up in three years time. Also, common, or regional sanitary landfills to be set up by all local bodies and census towns with a population under 0.5 million will have to be completed in three years.

Also, the rules have mandated bio-remediation or capping of old and abandoned dump sites within five years.

As per the new rules, the landfill site shall be 100 metres away from a river, 200 metres from a pond, 500, 200 metres away from highways, habitations, public parks and water supply wells and 20 km away from airports/airbase. Emission standards are completely amended and include parameters for dioxins, furans, reduced limits for particulate matters from 150 to 100 and now 50. Also, the compost standards have been amended to align with Fertiliser Control Order.

Source: Down To Earth.

40. Consider the following statements:

As per the Industrial Employment (Standing Orders) Central (Amendment) Rules, 2018

1. if rules for fixed-term employment are implemented, it becomes easier for the firms/companies to layoff workers.

2. no notice of termination of employment shall be necessary in the case of temporary workman.

Which of the statements given above is / are correct?

(1) 1 only

(2) 2 only

(3) Both 1 and 2

(4) Neither 1 nor 2

Answer key: 3

Solution:

As per the amendment "Fixed Term Employment" has now been introduced irrespective of the industry of work. The amendment also directs that no employer of an industrial establishment shall convert the posts of the permanent workmen existing in his industrial establishment on the date of commencement of the Industrial Employment (Standing Orders) Central (Amendment) Rules, 2018 as fixed term employment thereafter.

Source: Ministry of Labour website

41. In the context of digital technologies for entertainment, consider the following statements:

1. In Augmented Reality (AR), a simulated environment is created and the physical world is completely shut out.

2. In Virtual Reality (VR), images generated from a computer are projected onto real-life objects or surroundings.

3. AR allows individuals to be present in the world and improves the experience using the camera of smart-phone or PC.

4. VR closes the world, and transposes an individual, providing complete immersion experience.

Which of the statements given above is / are correct?

(1) 1 and 2 only

(2) 3 and 4

(3) 1, 2 and 3

(4) 4 only

Answer key: 2

Solution:

Virtual reality is able to transpose the user. In other words, bring us some place else. Through closed visors or goggles, VR blocks out the room and puts our presence elsewhere.

Augmented reality however, takes our current reality and adds something to it. It does not move us elsewhere. It simply "augments" our current state of presence, often with clear visors.

Source: NDTV

42. The word 'Denisovan' is sometimes mentioned in media in reference to

(1) fossils of a kind of dinosaurs

(2) an early human species

(3) a cave system found in North-East India.

(4) a geological period in the history of Indian subcontinent

Answer key: 2

Solution:

The Denisovans or Denisova hominins are an extinct species or subspecies of archaic humans in the genus Homo.

Source: The Hindu

43. With reference to the recent developments in science, which one of the following statements is **not** correct?

(1) Functional chromosomes can be created by joining segments of DNA taken from cells of different species.

(2) Pieces of artificial functional DNA can be created in Laboratories.

(3) A piece of DNA taken out from an animal cell can be made to replicate outside a living cell in a laboratory.

(4) Cells taken out from plants and animals can be made to undergo cell division in laboratory petri dishes.

Answer key: 1

Solution:

The most important function of DNA is to carry genes, the information that specifies all the proteins that make up an organism—including information about when, in what types of cells, and in what quantity each protein is to be made. The genomes of eucaryotes are divided up into chromosomes, and the DNA sequences allow a chromosome to be accurately duplicated and passed on from one generation to the next, therefore the functional chromosomes cannot be created by joining segments of DNA, that too taken from cells of different species

44. Consider the following statements:

A digital signature is

1. an electronic record that identifies the certifying authority issuing it

2. used to serve as a proof of identity of an individual to access information or server on Internet.

3. an electronic method of signing an electronic document and ensuring that the original content is unchanged

Which of the statements given above is / are correct?

(1) 1 only

(2) 2 and 3 only

(3) 3 only

(4) 1, 2 and 3

Answer key: 3

Solution:

An electronic signature, or e-signature, refers to data in electronic form, which is logically associated with other data in electronic form and which is used by the signatory to sign.

45. In the context of wearable technology, which of the following tasks is/are accomplished by wearable devices?

1. Location identification of a person

2. Sleep monitoring of a person

3. Assisting the hearing-impaired person

Select the correct answer using the code given below.

(1) 1 only

(2) 2 and 3 only

(3) 3 only

(4) 1, 2 and 3

Answer key: 4

Solution:

Wearable technology has a variety of applications which grows as the field itself expands. It appears prominently in consumer electronics with the popularization of the smartwatch and activity tracker. Apart from commercial uses, wearable technology is being incorporated into navigation systems, advanced textiles, and healthcare.

46. 'RNA interference (RNAi)' technology has gained popularity in the last few years. Why?

1. It is used in developing gene silencing therapies.
2. It can be used in developing therapies for-the treatment of cancer.
3. It can be used to develop hormone replacement therapies.
4. It can be used to produce crop plants that are resistant to viral pathogens.

Select the correct answer using the code given below.

- (1) 1, 2 and 4
- (2) 2 and 3
- (3) 1 and 3
- (4) 1 and 4 only

Answer key: 1

Solution:

RNA interference (RNAi) is a biological process in which RNA molecules inhibit gene expression or translation, by neutralizing targeted mRNA molecules.

Some of its application are

Gene therapy development for epilepsy

Gene silencing for cancer therapy

Library screening

47. Recently, scientists observed the merger of giant 'blackholes' billions of light-years away from the Earth. What is the significance of this observation?

- (1) 'Higgs boson particles' were detected.
- (2) 'Gravitational waves' were detected.
- (3) Possibility of inter-galactic space travel through 'wormhole' was confirmed.
- (4) It enabled the scientists to understand 'singularity'.

Answer key: 2

Solution:

The rate of neutron star mergers have been made based on the mergers detected by gravitational waves and gamma rays, strengthening the case for using X-ray data to find such exotic merger events in the universe.

48. Which of the following are the reasons for the occurrence of multi-drug resistance in microbial pathogens in India?

1. Genetic predisposition of some people
2. Taking incorrect doses of antibiotics to cure diseases
3. Using antibiotics in livestock farming
4. Multiple chronic diseases in some people

Select the correct answer using the code given below.

- (1) 1 and 2
- (2) 2 and 3 only
- (3) 1, 3 and 4
- (4) 2, 3 and 4

Answer key: 4

Solution:

Almost all the capable infecting agents (e.g., bacteria, fungi, virus, and parasite) have employed high levels of multidrug resistance (MDR) with enhanced morbidity and mortality; thus, they are referred to as "super bugs." Although the development of MDR is a natural phenomenon, the inappropriate use of antimicrobial drugs, inadequate sanitary conditions, inappropriate food-handling, and poor infection prevention and control practices contribute to emergence of and encourage the further spread of MDR.

49. What is Cas9 protein that is often mentioned in news?

- (1) A molecular scissors used in targeted gene editing
- (2) A biosensor used in the accurate detection of pathogens in patients
- (3) A gene that makes plants pest-resistant
- (4) A herbicidal substance synthesized in genetically modified crops

Answer key: 1

Solution:

CRISPR-Cas9 is a unique technology that enables geneticists and medical researchers to edit parts of the genome? by removing, adding or altering sections of the DNA? sequence.

50. Which one of the following statements is **not** correct?

- (1) Hepatitis B virus is transmitted much like HIV.
- (2) Hepatitis B, unlike Hepatitis C, does not have a vaccine.
- (3) Globally, the number of people infected with Hepatitis B and C viruses are several times more than those infected with HIV.
- (4) Some of those infected with Hepatitis Band C viruses do not show the symptoms for many years.

Answer key: 2

Solution:

Twinrix is a vaccine that provides active immunity against both the hepatitis A and hepatitis B viruses.

51. With reference to Mughal India, what is/are the difference/differences between Jagirdar and Zamindar?

1. Jagirdars were holders of land assignments in lieu of judicial and police duties, whereas Zamindars were holders of revenue rights without obligation to perform any duty other than revenue collection.
2. Land assignments to Jagirdars were hereditary and revenue rights of Zamindars were not hereditary.

Select the correct answer using the code given below.

- (1) 1 only
- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 4

Solution:

The Jagirdars were the king's officials who enjoyed the land gifted from the King. They were the rank (mansab) holder given by the king called mansabdar. The peasants and Zamindars come under the Jagirdar. Jagirdar lands were not inheritable and it was compensation for the service rendered by Jagirs.

52. With reference to land reforms in independent India, which one of the following statements is correct?

- (1) The ceiling laws were aimed at family holdings and not individual holdings.
- (2) The major aim of land reforms was providing agricultural land to all the landless.
- (3) It resulted in cultivation of cash crops as a predominant form of cultivation.
- (4) Land reforms permitted no exemptions to the ceiling limits.

Answer key: 2

Solution:

Land distribution has been part of India's state policy from the very beginning. Independent India's most revolutionary land policy was perhaps the abolition of the Zamindari system. Land-reform policy in India had two specific objectives: "The first is to remove such impediments to increase in agricultural production as arise from the agrarian structure inherited from the past. The second objective, which is closely related to the first, is to eliminate all elements of exploitation and social injustice within the agrarian system, to provide security for the tiller of soil and assure equality of status and opportunity to all sections of the rural population."

53. The Global Competitiveness Report is published by the

- (1) International Monetary Fund
- (2) United Nations Conference on Trade and Development
- (3) World Economic Forum
- (4) World Bank

Answer key: 3

Solution:

The Global Competitiveness Report is a yearly report published by the World Economic Forum. Since 2004, the Global Competitiveness Report ranks countries based on the Global Competitiveness Index.

54. Consider the following statements about 'the Charter Act of 1813':

1. It ended the trade monopoly of the East India Company in India except for trade in tea and trade with China.
2. It asserted the sovereignty of the British Crown over the Indian territories held by the Company.
3. The revenues of India were now controlled by the British Parliament.

Which of the statements given above are correct?

- (1) 1 and 2 only
- (2) 2 and 3 only
- (3) 1 and 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

The East India Company Act 1813, also known as the Charter Act 1813, was an Act of the Parliament of the United Kingdom which renewed the charter issued to the British East India Company, and continued the Company's rule in India. However, the Company's commercial monopoly was ended, except for the tea and opium trade and the trade with China, this reflecting the growth of British power in India.

55. With reference to Swadeshi Movement, consider the following statements:

1. It contributed to the revival of the indigenous artisan crafts and industries.
2. The National Council of Education was established as a part of Swadeshi Movement.

Which of the statements given above is/are correct?

- (1) 1 only
- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 3

Solution:

The positive element of economic swadeshi was the regeneration of indigenous goods. The boycott of foreign goods led to the increase in demand of indigenous goods especially clothes which felt short of supply.

56. Consider the following pairs:

**Movement/Organization - Leader**

1. All India Anti-Untouchability League- Mahatma Gandhi
2. All India Kisan Sabha- Swami Sahajanand Saraswati
3. Self-Respect Movement- E. V. Ramaswami Naicker

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

- (1) 1 only
- (2) 1 and 2 only
- (3) 2 and 3 only
- (4) 1, 2 and 3

Answer key: 4

Solution:

Harijan Sevak Sangh is a non-profit organisation founded by Mahatma Gandhi in 1932 to eradicate untouchability in India, working for Harijan or Dalit people and upliftment of scheduled castes of India.

All India Kisan Sabha, was the name of the peasants front of the undivided Communist Party of India, an important peasant movement formed by Sahajanand Saraswati in 1936.

Erode Venkatappa Ramasamy, commonly known as Periyar, also referred to as Thanthai Periyar, was an Indian social activist, and politician who started the Self-Respect Movement.

57. Which one of the following is **not** a Harappan site?

- (1) Chanhudaro
- (2) Kot Diji
- (3) Sohgaora
- (4) Desalpur

Answer key: 3

Solution:

Some of the prominent Indus Valley Sites Harappa are - Mohen-jo Daro Kalibangan Dholovira Lothal Suktagendor Kot Diji Ropar Mittathal Chanhu-Daro Banawal and others.

58. In which of the following relief sculpture inscriptions is 'Ranyo Ashoka' (King Ashoka) mentioned along with the stone portrait of Ashoka?

- (1) Kanganahalli
- (2) Sanchi I
- (3) Shahbazgarhi
- (4) Sohgaoura

Answer key: 1

Solution:

The discoveries in the site included a broken relief sculpture showing a king and queen flanked by female attendants two of whom held up a parasol and fly whisk – symbols of sovereignty – in their hands. An Inscription in Brahmi read "Ranyo Ashoka" (King Ashoka) leaving no doubt who the central figure was supposed to represent.

59. Consider the following:

- 1. Deification of the Buddha
- 2. Treading the path of Bodhisattvas
- 3. Image worship and rituals

Which of the above is/are the feature/ features of Mahayana Buddhism?

- (1) 1 only
- (2) 1 and 2 only
- (3) 2 and 3 only
- (4) 1, 2 and 3

Answer key: 4

Solution:

Mahayana or "great vehicle" believes in the heavenliness of Buddha and Idol worship of Buddhas and Bodhisattvas embodying Buddha Nature.

60. With reference to forced labour (Vishti) in India during the Gupta period, which one of the following statements is correct?

- (1) It was considered a source of income for the State, a sort of tax paid by the people.
- (2) It was totally absent in the Madhya Pradesh and Kathiawar regions of the Gupta Empire.
- (3) The forced labourer was entitled to weekly wages.
- (4) The eldest son of the labourer was sent as the forced labourer.

Answer key: 1

Solution:

In the Gupta Age, the term Vishti (Forced labor) was in force in which the Kshatriyas (kings) obtained their percentage of the material surplus through the power of arms in the kind of taxes (Shulka, Bali and Kar etc.), forced labor (Balutam and Vishti), tithes and other perquisites.

61. Which one of the following groups of plants was domesticated in the 'New World' and introduced into the 'Old World'?

- (1) Tobacco, cocoa and rubber
- (2) Tobacco, cotton and rubber.
- (3) Cotton, coffee and sugarcane
- (4) Rubber, coffee and wheat

Answer key: 1

Solution:

The Columbian exchange, also known as the Columbian interchange, named for Christopher Columbus, was the widespread transfer of plants, animals, culture, human populations, technology, diseases, and ideas between the Americas, West Africa, and the Old World in the 15th and 16th centuries.

62. Consider the following statements:

- 1. Asiatic lion is naturally found in India only.
- 2. Double-humped camel is naturally found in India only.
- 3. One-horned rhinoceros is naturally found in India only.

Which of the statements given above is / are correct?

- (1) 1 only
- (2) 2 only

(3) 1 and 3 only

(4) 1, 2 and 3

Answer key: 1

Solution:

The double-hump camel is a native of Gobi desert, and is found on a vast expanse of cold-desert areas across Mongolia, China, Kazakhstan, Turkmenistan, Uzbekistan and parts of Afghanistan. One Horned Rhinoceros were naturally found in Pakistan, Bangladesh, Nepal, Bhutan and some South-East Asian countries.

63. Consider the following pairs

**Famous place- River**

1. Pandharpur - Chandrabhaga

2. Tiruchirappalli- Cauvery

3. Hampi- Malaprabha

Which of the pairs given above are correctly matched?

(1) 1 and 2 only

(2) 2 and 3 only

(3) 1 and 3 only

(4) 1, 2 and 3

Answer key: 1

Solution:

Hampi is situated on the banks of the Tungabhadra River in the eastern part of central Karnataka near the state border with Andhra Pradesh.

64. In a given year in India, official poverty lines are higher in some States than in others because

(1) poverty rates vary from State to State

(2) price levels vary from State to State

(3) Gross State Product varies from State to State

(4) quality of public distribution varies from State to State

Answer key: 2

Solution:

The capture of spatial and temporal variation in prices in estimating the State-level and rural-urban poverty levels (given all-India rural and urban estimates) has undergone substantial refinement since 1979, due to variation of price levels between states.

65. In the context of which of the following do some scientists suggest the use of cirrus cloud thinning technique and the injection of sulphate aerosol into stratosphere?

(1) Creating the artificial rains in some regions

(2) Reducing the frequency and intensity of tropical cyclones

(3) Reducing the adverse effects of solar wind on the Earth

(4) Reducing the global warming

Answer key: 4

Solution:

Cooling the Earth through the injection of sulphate into the stratosphere is one of the most discussed geo-engineering (GE) schemes. Stratospheric aerosols can sediment into the troposphere, modify the aerosol composition and thus might impact cirrus clouds. It can be used as a global climate model with a physically based parametrization for cirrus clouds in order to investigate possible microphysical and dynamical effects.

66. In the context of which one of the following are the terms 'pyrolysis and plasma gasification' mentioned?

(1) Extraction of rare earth elements

(2) Natural gas extraction technologies

(3) Hydrogen fuel-based automobiles

(4) Waste-to-energy technologies

Answer key: 4

Solution:

Incineration, pyrolysis, gasification and plasma technologies are thermal processes that use high temperatures to break down waste. The main difference is that they use less oxygen than traditional mass - burn incineration.

67. Which of the following are in Agasthyamala Biosphere Reserve?

- (1) Neyyar, Peppara and Shendurney Wildlife Sanctuaries; and Kalakad Mundanthurai Tiger Reserve
- (2) Mudumalai, Sathyamangalam and Wayanad Wildlife Sanctuaries; and Silent Valley National Park
- (3) Kaundinya, Gundla Brahme-swaram and Papikonda Wildlife Sanctuaries; and Mukurthi National Park
- (4) Kawal and Sri Venkateswara Wildlife Sanctuaries; and Nagarjunasagar-Srisailem Tiger Reserve

Answer key: 1

Solution:

It is located in the Western Ghats in the south of the country, the Agasthyamala Biosphere Reserve has peaks reaching 1,868 m above sea level. Consisting mostly of tropical forest, the site is home to 2,254 species of higher plants including about 400 that are endemic. It is also a unique genetic reservoir of cultivated plants, in particular cardamom, jamune, nutmeg, pepper and plantain. Three wildlife sanctuaries, Shendurney, Peppara and Neyyar, are located in the site, as well as the Kalakad Mundanthurai Tiger reserve.

68. Consider the following statements:

1. Some species of turtles are herbivores.
2. Some species of fish are herbivores.
3. Some species of marine mammals are herbivores.
4. Some species of snakes are viviparous.

Which of the statements given above are correct?

- (1) 1 and 3 only
- (2) 2, 3 and 4 only
- (3) 2 and 4 only
- (4) 1, 2, 3 and 4

Answer key: 4

Solution:

Sea turtles may be carnivorous (meat eating), herbivorous (plant eating), or omnivorous (eating both meat and plants). The jaw structure of many species indicates their diet.

Surgeonfish and parrotfish are two familiar examples of herbivorous fish, often seen browsing and scraping on reef algae.

Manatees and dugongs are examples of herbivorous marine mammals.

Boa constrictors and green anacondas are two examples of viviparous snakes, meaning they give birth to live young with no eggs involved at any stage of development.

69. Consider the following pairs:

**Wildlife- Naturally found in**

1. Blue-finned Mahseer- Cauvery River
2. Irrawaddy Dolphin- Chambal River
3. Rusty-spotted Cat- Eastern Ghats

Which of the pairs given above are correctly matched?

- (1) 1 and 2 only
- (2) 2 and 3 only
- (3) 1 and 3 only
- (4) 1, 2 and 3

Answer key: 3

Solution:

Irrawaddy Dolphin are found in Irrawaddy river in Myanmar

70. Why is there a great concern about the 'microbeads' that are released into environment?

- (1) They are considered harmful to marine ecosystems.
- (2) They are considered to cause skin cancer in children.
- (3) They are small enough to be absorbed by crop plants in irrigated fields.
- (4) They are often found to be used as food adulterants.

Answer key: 1

Solution:

Microbeads are manufactured solid plastic particles of less than one millimeter in their largest dimension. They are most frequently made of polyethylene but can be of other petrochemical

plastics such as polypropylene and polystyrene. Since they are microplastics, its release in marine ecosystem can cause biomagnification.

71. Building 'Kalyaana Mandapas' was a notable feature in the temple construction in the kingdom of

- (1) Chalukya
- (2) Chandela
- (3) Rashtrakuta
- (4) Vijayanagara

Answer key: 4

Solution:

Kalyan Mandapa is found in almost all the temples build by Vijayanagar Kingdom.

72. Consider the following statements:

1. In the revenue administration of Delhi Sultanate, the in-charge of revenue collection was known as 'Amil'.

2. The Iqta system of Sultans of Delhi was an ancient indigenous institution.

3. The office of 'Mir Bakshi' came into existence during the reign of Khalji Sultans of Delhi.

Which of the statements given above is/are correct?

- (1) 1 only
- (2) 1 and 2 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

Iqta was an Islamic practice of tax farming that became common in Muslim Asia during the Buyid dynasty.

During Mughal period, Mir Bakshi was in charge of military pay and accounts office.

73. Consider the following statements:

1. Saint Nimbarka was a contemporary of Akbar.

2. Saint Kabir was greatly influenced by Shaikh Ahmad Sirhindi.

Which of the statements given above is/are correct?

- (1) 1 only
- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 4

Solution:

Saint Nimbarka was a Hindu philosopher and was not a contemporary of Akbar. Shaikh Ahmad Sirhindi was born after Saint Kabir.

74. With reference to the British colonial rule in India, consider the following statements:

1. Mahatma Gandhi was instrumental in the abolition of the system of 'indentured labour'.

2. In Lord Chelmsford's 'War Conference', Mahatma Gandhi did not support the resolution on recruiting Indians for World War.

3. Consequent upon the breaking of Salt Law by Indian people, the Indian National Congress was declared illegal by the colonial rulers.

Which of the statements given above are correct?

- (1) 1 and 2 only
- (2) 1 and 3 only
- (3) 2 and 3 only
- (4) 1, 2 and 3

Answer key: 2

Solution:

Gandhi supported the resolution on recruiting Indians for World War.

75. With reference to Indian National Movement, consider the following pairs:

**Person- Position held**

1. Sir Tej Bahadur Sapru- President, All India Liberal Federation
2. K. C. Neogy- Member, The Constituent Assembly

3. P. C. Joshi- General Secretary, Communist Party of India

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

- (1) 1 only
- (2) 1 and 2 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 4

Solution:

The All India Liberal Federation was founded by Surendra Nath Banarjea and some of its prominent leaders were Tej Bahadur Sapru, V. S. Srinivasa Sastri and M. R. Jayakar.

76. With reference to Mian Tansen, which one of the following statements is **not** correct?

- (1) Tansen was the title given to him by Emperor Akbar.
- (2) Tansen composed Dhrupads on Hindu gods and goddesses.
- (3) Tansen composed songs on his patrons.
- (4) Tansen invented many Ragas.

Answer key: 1

Solution:

The title of 'Tansen ' was given by Raja Vikramjit Singh of Gwalior. Akbar gave the title of 'Mian'.

77. Who among the following Mughal Emperors shifted emphasis from illustrated manuscripts to album and individual portrait?

- (1) Humayun
- (2) Akbar
- (3) Jahangir
- (4) Shah Jahan

Answer key: 3

Solution:

Akbar was fond of manuscripts and Jahangir later shifted focus on individual potrait and album.

78. Which one of the following National Parks lies completely in the temperate alpine zone?

- (1) Manas National Park
- (2) Namdapha National Park
- (3) Neora Valley National Park
- (4) Valley of Flowers National Park

Answer key: 4

Solution:

Valley of flowers is famous for its alpine meadows. It wholly lies in temperate alpine zone.

79. Atal Innovation Mission is set up under the

- (1) Department of Science and Technology
- (2) Ministry of Employment
- (3) NITI Aayog
- (4) Ministry of Skill Development and Entrepreneurship

Answer key: 3

Solution:

Atal Innovation Mission (AIM) including Self-Employment and Talent Utilization (SETU) is Government of India's endeavour to promote a culture of innovation and entrepreneurship, launched by NITI Aayog.

80. On 21st June, the Sun

- (1) does not set below the horizon at the Arctic Circle
- (2) does not set below the horizon at Antarctic Circle
- (3) shines vertically overhead at noon on the Equator
- (4) shines vertically overhead at the Tropic of Capricorn

Answer key: 1

Solution:

The Sun doesn't set in Artic region in Northern hemisphere on Summer Solstice.

81. Consider the following statements:

1. Agricultural soils release nitrogen oxides into environment.
2. Cattle release ammonia into environment.
3. Poultry industry releases reactive nitrogen compounds into environment.

Which of the statements given above is/are correct?

- (1) 1 and 3 only
- (2) 2 and 3 only
- (3) 2 only
- (4) 1, 2 and 3

Answer key: 4

Solution:

Agriculture remains the largest contributor to nitrogen emissions, the non-agricultural emissions of nitrogen oxides and nitrous oxide are growing rapidly, with sewage and fossil-fuel burning — for power, transport and industry — leading the trend.

82. What is common to the places known as Aliyar, Isapur and Kangsabati?

- (1) Recently discovered uranium deposits
- (2) Tropical rain forests
- (3) Underground cave systems
- (4) Water reservoirs

Answer key: 4

Solution:

Aliyar reservoir is in Tamil Nadu, Isapur Dam is in Maharashtra and Kangsabati is in West Bengal

83. In the context of proposals to the use of hydrogen-enriched CNG (H-CNG) as fuel for buses in public transport, consider the following statements:

1. The main advantage of the use of H-CNG is the elimination of carbon monoxide emissions.
2. H-CNG as fuel reduces carbon dioxide and hydrocarbon emissions.
3. Hydrogen up to one-fifth by volume can be blended with CNG as fuel for buses.
4. H-CNG makes the fuel less expensive than CNG.

Which of the statements given above is / are correct?

- (1) 1 only
- (2) 2 and 3 only
- (3) 4 only
- (4) 1, 2, 3 and 4

Answer key: 2

Solution:

H-CNG is a blend of hydrogen and compressed natural gas. Ideally mix of 18% hydrogen can reduce carbon monoxide and other harmful emissions by 70%.

Although the cost of H-CNG is slightly higher than CNG, but H-CNG is more efficient, thus overall it is cheaper than CNG, saving around 5% in overall cost.

84. Why are dew drops **not** formed on a cloudy night?

- (1) Clouds absorb the radiation released from the Earth's surface.
- (2) Clouds reflect back the Earth's radiation.
- (3) The Earth's surface would have low temperature on cloudy nights.
- (4) Clouds deflect the blowing wind to ground level.

Answer key: 2

Solution:

When the Sun sets, the Earth and any other radiating body upon it continue to radiate heat from their supplies. With no heat from the Sun to replenish their stocks, their temperature falls.

Maximum loss of heat occurs when there is no overhead shelter to prevent the radiation escaping into the atmosphere. The biggest single deterrent to radiation cooling is a blanket of cloud.

85. Consider the following statements:

1. The 44th Amendment to the Constitution of India introduced an Article placing the election of the Prime Minister beyond judicial review.
2. The Supreme Court of India struck down the 99th Amendment to the Constitution of India as being violative of the independence of judiciary.

Which of the statements given above is/are correct?

- (1) 1 only

- (2) 2 only
- (3) Both 1 and 2
- (4) Neither 1 nor 2

Answer key: 2

Solution:

It was 38th Amendment, not the 44th amendment.

Constitution (Ninety-Ninth Amendment) Act, 2014 tried to replace the Collegium system with the National Judicial Appointments Commission (NJAC), which was struck down by the Supreme Court.

86. Consider the following statements:

1. The motion to impeach a Judge of the Supreme Court of India cannot be rejected by the Speaker of the Lok Sabha as per the Judges (Inquiry) Act, 1968.
2. The Constitution of India defines and gives details of what Constitutes 'incapacity and proved misbehaviour' of the Judges of the Supreme Court of India.
3. The details of the process of impeachment of the Judges of the Supreme Court of India are given in the Judges (Inquiry) Act, 1968.
4. If the motion for the impeachment of a Judge is taken up for voting, the law requires the motion to be backed by each House of the Parliament and supported by a majority of total membership of that House and by not less than two-thirds of total members of that House present and voting.

Which of the statements given above is/are correct?

- (1) 1 and 2
- (2) 3 only
- (3) 3 and 4 only
- (4) 1, 3 and 4

Answer key: 3

Solution:

The Constitution of India just states the 'incapacity and proved misbehaviour' as a criteria as for the impeachment of the Judges of the Supreme Court of India, but details are elaborated in the Judges (Inquiry) Act, 1968.

87. The Ninth Schedule was introduced in the Constitution of India during the Prime Ministership of

- (1) Jawaharlal Nehru
- (2) Lal Bahadur Shastri
- (3) Indira Gandhi
- (4) Morarji Desai

Answer key: 1

Solution:

The first amendment to the Indian Constitution added the Ninth Schedule to it. It was introduced by the Nehru Government, on 10 May 1951 to address judicial decisions and pronouncements especially about the chapter on fundamental rights.

88. Consider the following statements:

1. Coal sector was nationalized by the Government of India under Indira Gandhi.
2. Now, coal blocks are allocated on lottery basis.
3. Till recently, India imported coal to meet the shortages of domestic supply, but now India is self-sufficient in coal production.

Which of the statements given above is/are correct?

- (1) 1 only
- (2) 2 and 3 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

Forty-five years after India nationalised its coal-mining industry, the Central government has allowed the re-entry of commercial mining firms into the sector, turning the clock back.

89. Consider the following statements:

1. The Parliament (Prevention of Disqualification) Act, 1959 exempts several posts from disqualification on the grounds of 'Office of Profit'.
2. The above-mentioned Act was amended five times.

3. The term 'Office of Profit' is well-defined in the Constitution of India.

Which of the statements given above is/are correct?

- (1) 1 and 2 only
- (2) 3 only
- (3) 2 and 3 only
- (4) 1, 2 and 3

Answer key: 1

Solution:

The term Office of Profit is not defined in the constitution. It was defined in the the Parliament (Prevention of Disqualification) Act, 1959.

90. Under which Schedule of the Constitution of India can the transfer of tribal land to private parties for mining be declared null and void?

- (1) Third Schedule
- (2) Fifth Schedule
- (3) Ninth Schedule
- (4) Twelfth Schedule

Answer key: 2

Solution:

The Constitution provides autonomy to tribal areas in matters of governance under the Fifth and Sixth Schedules, which is further fortified by the Samatha v. State of Andhra Pradesh & Ors (1997) judgment where the Supreme Court declared that the transfer of tribal land to private parties for mining was null and void under the Fifth Schedule.

91. Recently, there was a growing awareness in our country about the importance of Himalayan nettle (*Girardinia diversifolia*) because it is found to be a sustainable source of

- (1) anti-malarial drug
- (2) biodiesel
- (3) pulp for paper industry
- (4) textile fiber

Answer key: 4

Solution:

Himalayan nettle is the longest fiber currently known to humankind and is considered finer, stronger, and more elastic than linen. The development of this fiber would create work and income for many Nepalis and bring a durable and sustainable textile to market.

92. For the measurement/estimation of which of the following are satellite images/remote sensing data used?

- 1. Chlorophyll content in the vegetation of a specific location
- 2. Greenhouse gas emissions from rice paddies of a specific location
- 3. Land surface temperatures of a specific location

Select the correct answer using the code given below.

- (1) 1 only
- (2) 2 and 3 only
- (3) 3 only
- (4) 1, 2 and 3

Answer key: 4

Solution:

Remote sensing satellites can be used for identifying soil moisture content, chlorophyll content in the vegetation, temperature and humidity in the atmosphere etc.

93. Consider the following States:

- 1. Chhattisgarh
- 2. Madhya Pradesh
- 3. Maharashtra
- 4. Odisha

With reference to the States mentioned above, in terms of percentage of forest cover to the total area of State, which one of the following is the correct ascending order?

- (1) 2-3-1-4
- (2) 2-3-4-1

(3) 3-2-4-1

(4) 3-2-1-4

Answer key: 3

Solution:

As per the Forest survey report Maharashtra has 16.47%, MP has 25.11%, Chhattisgarh has 41.09% and Odisha has 32.98% of forest cover.

94. Which of the following statements are correct about the deposits of 'methane hydrate'?

1. Global warming might trigger the release of methane gas from these deposits.
2. Large deposits of 'methane hydrate' are found in Arctic Tundra and under the seafloor.
3. Methane in atmosphere oxidizes to carbon dioxide after a decade or two.

Select the correct answer using the code given below.

(1) 1 and 2 only

(2) 2 and 3 only

(3) 1 and 3 only

(4) 1, 2 and 3

Answer key: 4

Solution:

One of these studies makes use of projections from the most recent IPCC report to estimate that up to 205 gigatons of methane from methane hydrates could be released due to melting permafrost.

95. Consider the following:

1. Carbon monoxide
2. Methane
3. Ozone
4. Sulphur dioxide

Which of the above are released into atmosphere due to the burning of crop/biomass residue?

(1) 1 and 2 only

(2) 2, 3 and 4 only

(3) 1 and 4 only

(4) 1, 2, 3 and 4

Answer key: 4

Solution:

Burning of crop residues emits traces of carbon dioxide, methane, carbon monoxide, nitrous oxide, sulphur dioxide and particulates which affect human health. It is estimated that India annually emits 1,44,719 mg of total particulate matter from open burning of stubble.

96. Consider the following pairs:

**Sea- Bordering country**

1. Adriatic Sea- Albania
2. Black Sea- Croatia
3. Caspian Sea- Kazakhstan
4. Mediterranean Sea- Morocco
5. Red Sea- Syria

Which of the pair given above are correctly matched?

(1) 1, 2 and 4 only

(2) 1, 3 and 4 only

(3) 2 and 5 only

(4) 1, 2, 3, 4 and 5

Answer key: 2

Solution:



Source: Worldatlas.com

97. Among the following, which one is the largest exporter of rice in the world in the last five years?

- (1) China
- (2) India
- (3) Myanmar
- (4) Vietnam

Answer key: 2

Solution:

India is the largest exporter of rice in the world, followed by China.

98. Consider the following pairs:

**Glacier- River**

1. Bandarpunch- Yamuna
2. Bara Shigri- Chenab
3. Milam- Mandakini
4. Siachen- Nubra
5. Zemu- Manas

Which of the pairs given above are correctly matched?

- (1) 1, 2 and 4
- (2) 1, 3 and 4
- (3) 2 and 5
- (4) 3 and 5

Answer key: 1

Solution:

Nubra originates from Siachen and Mandakini river originates from Chorabari glacier

99. In India, the use of carbofuran, methyl parathion, phorate and triazophos is viewed with apprehension. These chemicals are used as

- (1) pesticides in agriculture
- (2) preservatives in processed foods
- (3) fruit-ripening agents
- (4) moisturising agents in cosmetics

Answer key: 1

Solution:

Carbofuran is one of the most toxic carbamate pesticides. It is used to control insects in a wide variety of field crops, including potatoes, corn and soybeans. It is a systemic insecticide, which means that the plant absorbs it through the roots, and from here the plant distributes it throughout its organs where insecticidal concentrations are attained. Carbofuran also has contact activity against pests.

100. Consider the following statements:

1. Under Ramsar Convention, it is mandatory on the part of the Government of India to protect and conserve all the wetlands in the territory of India.

2. The Wetlands (Conservation and Management) Rules, 2010 were framed by the Government of India based on the recommendations of Ramsar Convention.

3. The Wetlands (Conservation and Management) Rules, 2010 also encompass the drainage area or catchment regions of the wetlands as determined by the authority.

Which of the statements given above is / are correct?

(1) 1 and 2 only

(2) 2 and 3 only

(3) 3 only

(4) 1, 2 and 3

Answer key: 3

Solution:

The Ministry of Environment and Forests notified the Wetlands (Conservation and Management) Rules, 2010. These Rules, which for the first time lay down legally enforceable provisions for the conservation and management of Wetlands, have been drafted to ensure better conservation and management and to prevent further degradation of existing wetlands in India, including the drainage and catchment areas.