

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?

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

Correct Choice: (a)

Solution:

Statement 1 is correct and statement 3 is not correct: It is a multilateral development bank with a mission to improve social and economic outcomes in Asia and beyond. Currently it has 97 approved members with India as a founding member.

• Statement 2 is not correct: India is the second largest shareholder in AIIB with 7.5% voting shares while China holds 26.06% voting shares being the largest.

The Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank with a mission to improve social and economic outcomes in Asia. Headquartered in Beijing, we began operations in January 2016 and have now grown to 100 approved members worldwide.

2. What was the purpose of Inter-Creditor Agreement signed by Indian banks and financial institutions recently?

- (a) To lessen the Government of India's perennial burden of fiscal deficit and current account deficit. (b) To support the infrastructure projects of Central and State Governments
(c) To act as independent regulator in case of application for loans of Rs. 50 crore or more (d) To aim at faster resolution of stressed assets of Rs. 50 crore or more which are under consortium lending

Correct Choice: (d)

Solution:

Reserve Bank of India's (RBI) 'Prudential Framework for Resolution of Stressed Assets', the Indian Banks' Association (IBA) has put together an inter-creditor agreement (ICA) incorporating details relating to meetings of lenders, voting matters, payment to dissenting lenders and additional funding.

Project Sashakt was proposed by a panel led by PNB chairman Sunil Mehta. Bad loans of up to Rs. 50 crore will be managed at the bank level, with a deadline of 90 days. For bad loans of Rs. 50-500 crore, banks will enter an inter-creditor agreement, authorizing the lead bank to implement a resolution plan in 180 days, or refer the asset to NCLT. (National company law tribunal)

3. The Chairman of public sector banks are selected by the

- (a) Banks Board Bureau (b) Reserve Bank of India
(c) Union Ministry of Finance (d) Management of concerned bank

Correct Choice: (a)

Solution:

The chairman of public sector bank is selected by the Banks Board Bureau.

The board for the first time conducted a type of assessment center exercise to select the chairman for the public sector banks of India.

The Assessment center program undertakes multiple evaluation methods which includes evaluation of behaviour, interviews, job-related simulations and even going through psychological tests

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?

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

Correct Choice: (b)

Solution:

Statement 1 is not correct: The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006.

• Statement 2 is correct: The Act provide for the establishment of Petroleum and Natural Gas Regulatory Board 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 3 is correct: The Appellate Tribunal established under section 110 of the Electricity Act, 2003 (36 of 2003)

5. With reference to communications 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.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Correct Choice: (d)

Solution:

VoLTE is a technology update to the LTE protocol used by mobile phone networks.

• Under LTE, the infrastructure of telecom players only allows transmission of data while voice calls are routed to their older 2G or 3G networks. This is why, under LTE, you cannot access your 4G data services while on a call. This leads to problems such as slow internet speeds and poor voice clarity.

VoLTE allows voice calls to be 'packaged' and carried through LTE networks. This would mean 4G data accessibility even during calls. Hence, statement 2 is not correct.

• LTE is commonly marketed as 4G LTE. Hence, statement 1 is not correct.

VoLTE is an Internet Protocol Multimedia Subsystem (IMS) specification which enables a variety of services to operate seamlessly on the network rather than having to switch to different applications for voice or video

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.

1. Women with two children get reduced entitlements.

Select the correct answer using the code given below.

(a) 1 and 2 only

(b) 2 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (c)

Solution:

Maternity Benefit (Amendment) Act, 2017 • It provides for full paid absence from work for a period of 26 weeks (earlier 12 weeks) to take care of the child. Hence statement 1 is not correct.

• The Act is applicable to all establishments employing 10 or more women.

• For women who are expecting after having 2 children, the duration of paid maternity leave shall be 12 weeks. Hence statement 3 is correct.

• Maternity leave of 12 weeks to be available to mothers adopting a child below the age of three months from the date of adoption as well as to the "commissioning mothers".

• The Act makes it mandatory for employers to educate women about the maternity benefits available to them at the time of their appointment.

• Any establishment which has 50 or more employees shall have the facility of creche. Further, the proviso of Section 11A states that employer shall allow 4 visits a day to the creche by the woman employee. Hence statement 2 is not correct.

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

(a) Maintenance of law and order

(b) Paying taxes

(c) Registering property

(d) Dealing with construction permits

Correct Choice: (a)

Solution:

Doing Business measures regulations affecting 11 areas of the life of a business.

Ten of these areas are included in this Doing Business 2019 ranking on the ease of doing business: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency.

Doing Business also measures labor market regulation, which is not included in this year's ranking.

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

- (a) The Bio –medical Waste (Management and Handling) Rules, 1998
- (b) The Recycled Plastic (Manufacturing and Usage) Rules, 1999
- (c) The e –Waste (Management and Handling) Rules, 2011
- (d) The Food Safety and Standard Regulations, 2011

Correct Choice: (c)

Solution:

Extended producer's responsibility (EPR) is the main feature of the E-waste (Management and Handling) Rules, 2011, wherein the producer of electrical and electronic equipment has the responsibility of managing such equipment after its 'end of life', thus the producer is responsible for their products once the consumer discards them.

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

- (a) transportation cost only
- (b) interest cost only
- (c) procurement incidentals and distribution cost
- (d) procurement incidentals and charges for godowns

Correct Choice: (c)

Solution:

The economic cost comprises the procurement price of foodgrains, costs related to procurement (such as statutory taxes, labour costs, mandi fees, and so on) and costs of distribution (including freight, storage and administration).

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

- (a) The proportion of literates in the population
- (b) The stock of its buildings, other infrastructure and machines
- (c) The size of population in the working age group
- (d) The level of mutual trust and harmony in the society

Correct Choice: (d)

Solution:

Social capital is a sociological concept that refers to the intangible relational assets that emerge from social interactions.

These assets are generated through give and take and activate the "norm of reciprocity," creating social obligations that connect and bind people and groups.

The more social capital is used, the greater the benefits.

• The concept of social capital is composed of three distinct but interrelated structural, emotional and behavioral components. They are, respectively, networks, trust and collaborative cultural norms.

• In every society, some people have a greater share of valued resources – money, property, education, health, and power than others.

These social resources can be divided into three forms of capital – economic capital in the form of material assets and income; cultural capital such as educational qualifications and status; and social capital in the

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

- (a) Integrated Rural Development Programme
- (b) Lead Bank Scheme
- (c) Mahatma Gandhi National Rural Employment Guarantee Scheme
- (d) National Skill Development Mission

Correct Choice: (b)

Solution:

The Service Area Approach (SAA) introduced in April 1989, in order to bring about an orderly and planned development of rural and semi

- urban areas of the country, was extended to all Indian scheduled commercial banks including Regional Rural Banks (RRBs).

• Service area approach is an alternative and improved method of Lead Bank Scheme for deployment of bank credit for rural development.

Under SAA, each bank branch in rural and semi -urban area was designated to serve an area of 15 to 25 villages and the branch was responsible for meeting the needs of bank credit of its service area.

• The primary objective of SAA was to increase productive lending and forge effective linkages between bank credit, production, productivity and increase in income levels

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 Government have the power to frame rules to prevent illegal mining of minor minerals. Which of the statements given above is/are correct?

(a) 1 and 3 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (a)

Solution:

Statement 1 is correct

- Sand is a minor mineral, as defined under section 3(e) of the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act).

• Statement 2 is not correct As per Section 15 of the Mines and Minerals (Development and Regulation) (MMDR) Act, 1957,

State Governments have been empowered to frame rules in respect of minor minerals for regulating the grant of quarry leases, mining leases or other mineral concessions in respect of minor minerals and for purposes connected therewith.

Statement 3 is correct Section 23C of the MMDR Act, 1957 empowers state governments to frame rules to prevent illegal mining, transportation and storage of minerals and for purposes connected therewith. Control of illegal mining is, therefore, under the legislative and administrative jurisdiction of state governments.

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?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Correct Choice: (d)

Solution:

As per the Government report on External debt by December 2018-Commercial borrowings are the largest component of external debt with a share of 37.1 percent, followed by NRI deposits (23.9 percent) and short term trade credit (19.9 percent). Hence, Statement 1 is not correct.

• US dollar denominated debt continued to be the largest component of India's external debt with a share of 45.9 percent at end December 2018, followed by the Indian rupee (24.8 percent), SDR (5.1 percent), yen (4.9 percent) and euro(3.1 percent). Hence, Statement 2 is not correct.

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

(a) Advances

(b) Deposits

(c) Investments

(d) Money at call and short notice

Correct Choice: (b)

Solution:

A bank places its funds in assets to earn profits. The assets include investments, loans and advances, money at call and short notice, bills discounted and purchased. It also includes the cash in hand with the banks and also the cash held with the RBI.

- The liabilities include deposits (both time and demand) and borrowings.
- Hence (b) is the correct answer.

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.

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

Correct Choice: (b)

Solution:

Currency crisis is brought on by a decline in the value of a country's currency.

This decline in value negatively affects an economy by creating instabilities in exchange rates, meaning that one unit of a certain currency no longer buys as much as it used to in another currency.

- A substantial amount of foreign exchange reserves can help to cushion against any risks of currency crisis.
- The foreign current earnings of India's IT sector and remittances from abroad would lead more inflow of foreign currencies in the economy and boost the foreign exchange reserves. Hence, Statements 1 and 3 are correct.
- Statement 2 is not correct as increasing the government expenditure is not related to change in foreign exchange reserves or any currency fluctuations.

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Correct Choice: (b)

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17. 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?

- (a) First Administrative Reforms Commission (1966) (b) Rajamannar Committee (1969)
(c) Sarkaria Commission (1983) (d) National Commission to Review the Working of the Constitution (2000)

Correct Choice: (c)

Solution:

Sarkaria Commission Report (1988)

• Recommendation on appointment of Governor: o Governor should be an eminent person and not belong to the state where he is to be posted. o State chief minister should have a say in the appointment of governor o Governor should be a detached figure without intense political links or should not have taken part in politics in recent past.

Hence, Statement (c) is correct.

o Governor should not be a member of the ruling party.

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

(a) Certificate of Deposits

(b) Commercial Paper

(c) Promissory Note

(d) Participatory Note

Correct Choice: (d)

Solution:

A Participatory Note (PN or P-Note) is a derivative instrument issued in foreign jurisdictions, by a SEBI registered Foreign Institutional Investor (FII) or its sub-accounts or one of its associates, against underlying Indian securities. The underlying Indian security instrument may be equity, debt, derivatives or may even be an index.

• A promissory note is a financial instrument that contains a written promise by one party to pay another party a definite sum of money, either on demand or at a specified future date.

• Commercial Paper (CP) is an unsecured money market instrument issued in the form of a promissory note. CPs are short -term instruments and the maturity period varies from seven days to up to one year. It was introduced to enable highly rated corporate borrowers to diversify their sources of short -term borrowings, and also to provide an additional instrument to investors.

• Certificate of Deposits -It is a saving certificate with a fixed maturity date at fixed interest rate. It is issued by commercial banks and financial institutions. It is issued in the form of promissory note in exchange of funds deposited in banks for specified period.

19. 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?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Correct Choice: (a)

Solution:

• Statement 1 is correct: As per law, the Compensatory Afforestation Fund Management and Planning Authority exists at both National and State levels.

• Statement 2 is not correct: It does not provide for mandatory people participation in the compensatory afforestation programmes carried out under the Compensatory Afforestation Fund Act, 2016.

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

1. Ad Hoc Committee set up by the Parliament.

2. Parliamentary Department Related Standing Committee

3. Finance Commission

4. Financial Sector Legislative Reforms Commission

5. NITI Aayog

Select the correct answer using the code given below.

(a) 1 and 2

(b) 1, 3 and 4

(c) 3, 4 and 5

(d) 2 and 5

Correct Choice: (a)

Solution:

Department related Standing Committees: The Committee system of Parliament is often used in several countries for oversight of regulators. In India, there are 24 Department Related Standing Committees that comprise members from both Houses of Parliament. These committees are ministry specific, and may review the working of regulators within their respective departments.

The Ad hoc committees are temporary and perform specific task. The Ad Hoc Committees dissolve, once their task is done. These committees are Ministries' specific and review the working of regulators within their respective departments.

- Ad-hoc Committees: Parliament may establish ad-hoc committees which may examine the working of regulators. For instance, the terms of reference of the Joint Parliamentary Committee (JPC) on the allocation of 2G spectrum include the review of the policy on spectrum pricing and grant of telecom licences. Another example of parliamentary oversight through ad-hoc committees is the scrutiny of the working of SEBI and RBI by the JPC on the stock market scam.

The two parliamentary committees on finance which exercise oversight of regulators are: (a) the Committee on Estimates; and (b) the Public Accounts Committee (PAC). The Committee on Estimates reviews budgetary estimates of government departments. Such estimates include the budget of regulators. Most laws establishing independent regulators require the Comptroller and Auditor General (CAG) to prepare annual audit reports on the accounts of the regulators. These reports are tabled before Parliament and reviewed by the PAC. The PAC may require the regulator's officers to depose before the Committee. For instance, the Chairman and senior officers of SEBI deposed before the PAC when it was examining the working of SEBI.

- Finance Commission, Financial Sector Reforms Commission and NITI Aayog have no role in reviewing the independent regulators.

21. 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.

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

Correct Choice: (a)

Solution:

Statement 1 is correct-India adopted the strategy of Import Substitution Industrialization (ISI) in the fifties.

The chief objective was to build self-reliant economy. From the Second Five Year Plan, there was determined thrust towards substitution of basic and capital goods industries.

The ISI strategy was based on the model of growth as propounded by PC Mahalonobis.

- Statement 2 is correct The Fourth Plan provided anecessary corrective to the earlier trend which helped particularly the stronger sections in agriculture as well as in industry to enable them rapidly to enlarge and diversify the production base.

In the long run, the full potential of growth cannot be realised unless the energies of all our people are put to profitable use.

The emphasis on spreading the impetus and benefits of economic growth to the weaker sections is thus necessary in the interest of equality as well as growth.

The Plan will now assist the less prosperous sections of our farming population to improve their position and make a yet bigger contribution to the national economy.

- Statement 3 is not correct The financial sector become an integral part of the plan in the 9th five year plan.

22. 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.
1. An amendment to the Constitution of India cannot be called into question by the Supreme Court of India.

Which of the statements give above is/are correct?

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

Correct Choice: (d)

Solution:

42nd Constitutional Amendment Act, 1976:

Inserted new article 228A.

- After article 228 of the Constitution, Special provisions as to disposal of questions relating to constitutional validity of State laws.

- (1) No High Court shall have jurisdiction to declare any Central law to be constitutionally invalid. However, the 43rd Amendment Act of 1977 restored the original position. Hence statement 1 is not correct.

• In the Kesavananda Bharati case (1973), Supreme Court laid down a new doctrine of the 'basic structure' (or 'basic features') of the Constitution. It ruled that the constituent power of Parliament under Article 368 can amend the constitution Under Article but Such amendments Should not does not enable it to alter the 'basic structure' of the Constitution anything that ultravires the constitution is cut down by the highest judiciary including the Constitutional amendment.

Hence statement 2 is not correct.

23. 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 statement given above is/are correct?

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

Correct Choice: (a)

Solution:

In purchasing power parity (PPP) exchange rate — the rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country. For example-If a burger is selling in India for Rs100 and in New York for \$2, this would imply a PPP exchange rate of 1 dollar to Rs 50.

Hence, Statement 1 is correct.

• On the PPP basis, China is world's largest economy in

1. Total wealth of china is estimated at 25.3 trillion international dollar. China is followed by United States with figure 19.4 trillion. India is the third largest economy , in terms of PPP dollars.

Hence, Statement 2 is not correct.

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?

- (a) Spices (b) Fresh fruits
(c) Pulses (d) Vegetable oils

Correct Choice: (d)

Solution:

Qty . : '000 tonnes Value in Rs. CroresSN 2013-14Qty Value1 Vegetable Oils7943 440382 Pulses 3178 11037 3 FreshFruits769 77164 Cashewraw776 46685 Spices 156 3452 6 Sugar 881 2287 7 AlcoholicBeverages20768 Cotton Raw Incd. Waste181 23769 Misc.Processed1474

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

- (a) Protection against the tyranny of political rulers (b) Absence of restraint
(c) Opportunity to do whatever one likes (d) Opportunity to develop oneself fully

Correct Choice: (d)

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.

Liberty, as elaborated in the Preamble, is very essential for the successful functioning of the Indian democratic system.

However, liberty does not mean 'license' to do what one likes and has to be enjoyed within the limitations mentioned in the Constitution itself.

In brief, the liberty conceived by the Preamble or fundamental rights is not absolute but qualified.

Hence in the above question the most appropriate definition of liberty is to provide opportunity to develop oneself fully

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

- (a) Curbing imports of nonessential goods—and promoting exports
- (b) Encouraging Indian borrowers to issue rupee denominated Masala Bonds
- (c) Easing conditions relating to external commercial borrowing
- (d) Following an expansionary monetary policy

Correct Choice: (d)

Solution:

Expansionary monetary policy is when the RBI would use its tools to stimulate the economy. That increases the money supply, lowers interest rates, and increases aggregate demand.

- Lower interest rates will also tend to reduce the value of the currency. If domestic interest rates fall relative to elsewhere, it becomes less attractive to save money in domestic banks.
- Therefore, it will lead to outflow of foreign currency and therefore, slide of Indian Rupee.

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 store in a system only in India.
 2. they shall ensure that the systems are owned and operated by public sector enterprises.
 2. 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?

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

Correct Choice: (a)

Solution:

The Reserve Banks directive related to Storage of Payment System Data provides that:

1. All system providers shall ensure that the entire data relating to payment systems operated by them are stored in a system only in India. This data should include the full end-to-end transaction details / information collected / carried / processed as part of the message / payment instruction. For the foreign leg of the transaction, if any, the data can also be stored in the foreign country, if required.
2. System providers shall ensure compliance of (i) above within a period of six months and report compliance of the same to the Reserve Bank latest by October 15, 2018.
3. System providers shall submit the System Audit Report (SAR) on completion of the requirement at (i) above. The audit should be conducted by CERT-IN empaneled auditors certifying completion of activity at (i) above.
4. The SAR duly approved by the Board of the system providers should be submitted to the Reserve Bank not later than December 31, 2018. Hence, only statement 1 is correct

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 its from 25th May, 2018?

- (a) Australia
- (b) Canada
- (c) The European Union
- (d) The United States of America

Correct Choice: (c)

Solution:

General Data Protection Regulation (GDPR) aims to protect all European Union (EU) citizens from data breaches. The regulation, which was approved by the EU Parliament in April 2016 after about four years of preparation and debate, came into effect on May 25, 2018.

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?

- (a) Japan
- (b) Russia
- (c) The United Kingdom
- (d) The United States of America

Correct Choice: (b)

Solution:

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.

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

- (a) Increase in the cash reserve ratio
- (b) Increase in the banking habit of the population
- (c) Increase in the statutory liquidity ratio
- (d) Increase in the population of the country

Correct Choice: (b)

Solution:

• Money Multiplier is the ratio of the stock of money to the stock of high powered money. It is the relationship between the monetary base and money supply of an economy.

It explains the increase in the amount of cash in circulation generated by the banks' ability to lend money out of their depositors' funds. Therefore, it refers to how an initial deposit can lead to a bigger final increase in the total money supply.

• For example, if the commercial banks gain deposits of Rs1 Lakh and this leads to a final money supply of Rs 10 lakh.

The money multiplier is 10. Therefore, increase in banking habit of the population would lead to more deposits and hence increase in Money Multiplier. Hence (b) is the correct answer.

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?

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

Correct Choice: (c)

Solution:

75 tribal groups have been categorized by Ministry of Home Affairs as Particularly Vulnerable Tribal Groups (PVTG)s.

PVTGs reside in 18 States and UT of A&N Islands. Particularly Vulnerable Tribal Groups (PVTGs) are centrally recognized special category from among the Scheduled Tribe.

It was constituted during the 4th five year plan on the basis of the report of the Dhebar commission (1960-61). Such groups were identified by one or more of the following features:

Existence of pre-agricultural practices, Practice of hunting and gathering, Zero or negative population growth and relatively low level of literacy as compared to other tribal groups.

• Konda reddy of Khammam district of Telangana and Irular of Tamil Nadu are in the list of PVTGs.

32. With reference to the Constitution of India, prohibition 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?

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

Correct Choice: (b)

Solution:

Article 142 states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.

Any decree so passed or orders so made shall be enforceable throughout the territory of India in such manner as may be prescribed by Parliament. Until a provision in that behalf is made, then it would be enforced in such a manner as the President may by order prescribe.

One of the important instances of application by the Supreme Court of Article 142 was in the Union Carbide case — relating to the victims of the Bhopal gas tragedy.

In this judgment, the Supreme Court, while awarding compensation of \$470 million to the victims, went to the extent of saying that to do complete justice, it could even override the laws made by Parliament by holding that, "prohibitions or limitations or provisions contained in ordinary laws cannot, ipso facto, act as prohibitions or limitations on the constitutional powers under Article 142." By this statement the Supreme Court of India placed itself above the laws made by Parliament or the legislatures of the States.

Hence the Supreme Court of India is not constrained in the exercise of its powers by laws made by the Parliament.

Some important cases where Supreme Court invoked article 142 are:

1. Appointment of Lokayukta in Uttar Pradesh.
2. Setting up R.M. Lodha Committee to oversee the functioning of the Medical Council of India (MCI).
3. Transfer the trial of accused in Babri Masjid demolition case.
4. Ban on sale of alcohol within 500 meters of state and national highways.
5. Witness Protection Scheme, 2018

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 ?

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

Correct Choice: (a)

Solution:

Article 176(1) of the Constitution of India enjoins that the Governor shall Address both the Houses assembled together at the commencement of the first Session after each general election to the Assembly and at the commencement of the first session of each year and inform the Legislature of the causes of its Summons.

The Address of the Governor contains a review of the activities and Achievements of the Government during the previous year and their policy with regard to important internal problems as well as a brief account of the programme of Government Business for the session.

Article 208 in The Constitution Of India 1949

Rules of procedure

(1) A House of the Legislature of a State may make rules for regulating subject to the provisions of this Constitution, its procedure and the conduct of its business

(2) Until rules are made under clause (1), the rules of procedure and standing orders in force immediately before the commencement of this Constitution with respect to the Legislature for the corresponding Province shall have effect in relation to the Legislature of the State subject to such modifications and adaptations as may be made therein by the Speaker of the Legislative Assembly, or the Chairman of the Legislative Council, as the case may be

(3) In a State having a Legislative Council the Governor, after consultation with the Speaker of the Legislative Assembly and the Chairman of the legislative Council, may make rules as to the procedure with respect to communications between the two Houses.

Hence there is no mention that the State Assembly follow the Lok Sabha rule.

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'.
1. The UNCAC is the ever first legally binding global anti corruption instrument.
1. 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.
1. The United Nations Office on Drugs and Crime (UNODC) is mandated by its members States to assist in the implementation of both UNCAC and UNTOC.

Which of the statements given above are correct?

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

Correct Choice: (c)

Solution:

Statement 1 is not correct and statement 2 is correct: The United Nations Convention against Corruption (UNCAC), which entered into force in December 2005, is the ever -first binding global anti-corruption instrument. It obliges the States to prevent and criminalize different corrupt practices, promote international cooperation, cooperate for the recovery of stolen assets and enhance technical assistance and information exchange.

Statement 3 is not correct: The UNTOC was adopted by General Assembly in 2000 and came into force in 2003. The Convention is the first comprehensive and global legally binding instrument to fight transnational organized crime. States that have ratified UNTOC commit themselves to taking a series of measures to prevent and control transnational organized crime, including (i) the criminalising of the participation in an organized criminal group, of money laundering, related corruption and obstruction of justice and (ii) the adoption of frameworks for extradition, mutual legal assistance and international cooperation. The UNTOC is further supplemented by three Protocols, which target specific forms of organized crime:

1) The Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, provides an agreed upon definition of trafficking in persons. It aims at comprehensively addressing trafficking in persons through the so called three P's Prosecution of perpetrators, Protection of victims and Prevention of trafficking.

2) The Protocol against the Smuggling of Migrants by Land, Sea and Air, also provides a definition of smuggling of migrants. The Protocol aims at preventing and controlling smuggling of migrants, promoting cooperation among States Parties, while protecting the rights of smuggled migrants.

3) The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition promotes, facilitates and strengthens cooperation among States Parties in order to prevent and control the illicit manufacturing of and trafficking in firearms, their parts and components and ammunition by mainly committing Member States to introduce solid registration and storage systems for all legally produced arms. Statement 4 is correct: The United Nations Office on Drugs and Crime (UNODC) is mandated by its Member States to assist in the implementation of both Conventions.

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.
1. As per the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, bamboo is a minor forest produce.
1. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forests Rights) Act, 2006 allows ownership of minor forest produce to forest dwellers.

Which of the statements given above is/are correct?

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

Correct Choice: (b)

Solution:

• Statement 1 is not correct: The Indian Forest (Amendment) Ordinance, 2017 exempts bamboo grown in non-forest areas from definition of tree, thereby dispensing with the requirement of felling/transit permit for its economic use.

• Statement 2 is correct: Minor Forest Produce (MFP) is defined under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, as all non-timber forest produce of plant origin, and includes bamboo, brushwood, stumps, canes, Tusser, cocoon, honey, waxes, Lac, tendu/kendu leaves, medicinal plants and herbs, roots, tuber and the like.

• Statement 3 is correct: The Forest Rights Act 2006 defines forest rights as inclusive of 'Right of ownership, access to collect, use and dispose of minor forest produce which have traditionally been collected within or outside village boundaries'. Individuals, communities and gram sabhas having rights under this particular section of the Act will not only have the rights to use but also rights of ownership over MFPs.

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

- (a) Article 19 (b) Article 21
 (c) Article 25 (d) Article 29

Correct Choice: (b)

Solution:

The right to marry a person of one's choice is integral to Article 21 (right to life and liberty) of the Constitution", the Supreme Court said Monday and set aside a 2017 order of the Kerala High Court which annulled the marriage of Kerala Muslim convert girl Hadiya and Shefin Jahan.

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 in the patented in India.

Which of the statements given above is/are correct?

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

Correct Choice: (c)

Solution:

Statement 1 is not correct and Statement 3 is correct: As per the Patents Act, 1970- "plants and animals in whole or any part thereof other than micro organisms but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals" are inventions not patentable.

• Statement 2 is not correct: The Intellectual Property Appellate Board, a quasi-judicial body, was constituted in September

1. The Board is entrusted with the task of adjudication of disputes pertaining to copyright registration, assignment of copyright, grant of Licenses in respect of works withheld from public, unpublished Indian works, production and publication of translations and works for certain specified purposes. It also hears cases in other miscellaneous matters instituted before it under the Copyright Act, 1957.

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?

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

Correct Choice: (c)

Solution:

Statement 1 is correct: The Environment Impact Assessment Notification was made by the GOI in pursuance of the powers conferred on it by the Environment Protection Act [sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986]. One of the most significant determinants of EIA is the procedure of Public Hearing (PH) and Public Participation (PP) on any developmental project. • Statement 2 is correct: As per Section 3 of the Environment Protection Act, the Government of India is empowered to make rules in the laying down standards for emission or discharge of environmental pollutants from various sources.

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

- (a) Waste generator has to segregate waste five categories. (b) The Rules are applicable to notified urban local bodies, notified towns and all industrial townships only.
(c) The Rules provide for exact and elaborate criteria for the identification of sites for landfills and waste processing facilities. (d) It is mandatory the part of waste generator that the waste generated in one district cannot be moved to another district.

Correct Choice: (c)

Solution:

The SWM Rules 2016 provide for detailed criteria for setting-up solid waste processing and treatment facility, solid waste management in hilly areas, for waste to energy process, for Sanitary Landfills, for site selection, development of facilities at the sanitary landfills, specifications for land filling operations and closure on completion of landfilling, pollution prevention, Closure and Rehabilitation of Old Dumps etc.

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 lay off 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?

- (a) 1 only (b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Correct Choice: (c)

Solution:

Statement 1 is correct: The government has notified fixed term employment for all sectors through an amendment to the Industrial Employment (Standing Orders) Central Rules, 1946.

Fixed-term employment for all sectors will make it easier for companies to hire-and-fire workers along with reducing the role of middlemen.

Statement 2 is correct: No notice of termination of employment shall be necessary in the case of temporary workman whether monthly rated, weekly rated or piece rated and probationers or badli workmen.

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

Which of the statements given above is/are correct?

(a) 1 and 2 only

(b) 3 and 4

(c) 1, 2 and 3

(d) 4 only

Correct Choice: (b)

Solution:

Virtual Reality technology immerses users in a completely virtual environment that is generated by a computer. You need to wear a special VR headset to experience virtual reality. Most VR headsets are connected to a computer (Oculus Rift) or a gaming console (PlayStation VR) but there are standalone devices (Google Cardboard is among the most popular) as well. Most standalone VR headsets work in combination with smartphones— you insert a smartphone, wear a headset, and immerse in the virtual reality.

• In augmented reality, users see and interact with the real world while digital content is added to it. Pokemon Go is an example of augmented reality. If you own a modern smartphone, you can easily download an AR app and try this technology. There's a different way to experience augmented reality, though— with special AR headsets, such as Google Glass, where digital content is displayed on a tiny screen in front of a user's eye.

• Hence, only statements 3 and 4 are correct .

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

(a) fossils of a kind of dinosaurs

(b) an early human species

(c) a cave system found in North -East India

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

Correct Choice: (b)

Solution:

The first evidence for Denisovans or Denisova hominins was first discovered in 2008 in a cave in the Altai mountains in Siberia. Analysis of a fossil jawbone containing molars recovered from Baishiya Karst cave in Xiahe, Gansu, China shows Denisovans lived in the Tibetan Plateau some 1,60,000 years ago. This is the first time evidence of Denisovan presence has been found outside the Denisova cave.

43. With reference to the recent developments in science,

which one of the following statements is not correct?

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

(b) Pieces of artificial functional DNA can be created in laboratories.

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

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

Correct Choice: (a)

Solution:

Options C and D are correct: Given appropriate surroundings, most plant and animal cells can live, multiply, and even express differentiated properties in a tissue culture dish. The cells can be watched continuously under the microscope or analyzed biochemically, and the effects of adding or removing specific molecules, such as hormones or growth factors, can be explored. In addition, by mixing two cell types, the interactions between one cell type and another can be studied. Experiments performed on cultured cells are sometimes said to be carried out *in vitro* (literally, "in glass") to contrast them with experiments using intact organisms, which are said to be carried out *in vivo* (literally, "in the living organism").

• Options B is correct: DNA is an organic chemical molecule made from atoms of carbon, hydrogen, nitrogen, oxygen, and phosphorous. Like many other organic molecules that are made inside living cells, DNA can also be synthesized in test tubes using the tools of organic chemistry. In most descriptions of DNA synthesis technology, we hear that DNA sequences can be made by simply adding together the A's T's C's and G's -- the "bases" that make the rungs of the twisted DNA ladder.

• Options A is not correct: Functional chromosomes can not be created by joining segments of DNA 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 serve 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?

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

Correct Choice: (d)

Solution:

Digital Signature Certificates (DSC) are the digital equivalent (that is electronic format) of physical or paper certificates. Examples of physical certificates are drivers' licenses, passports or membership cards.

• Certificates serve as a proof of identity of an individual for a certain purpose; for example, a driver's license identifies someone who can legally drive in a particular country. Likewise, a digital certificate can be presented electronically to prove your identity, to access information or services on the Internet or to sign certain documents digitally .

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

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

Correct Choice: (d)

Solution:

Wearable technology is a category of electronic devices that can be worn as accessories, embedded in clothing, implanted in the user's body, or even tattooed on the skin. The devices are hands -free gadgets with practical uses, powered by microprocessors and enhanced with the ability to send and receive data via the Internet.

• Location and position tracking sensors (i.e., GPS, altimeter, magnetometer, compasses, and accelerometers) are the most common type of sensors on wearable devices, such as activity trackers, smartwatches, and even medical wearables where they are used to check the physical activity and health of patients.

• Fitness trackers, also known as activity trackers, are typically worn on the wrist, chest, or ears, and are designed to monitor and track outdoor sport activities and measure fitness related metrics, such as the speed and distance of running, exhalation, pulse rate, and sleeping habits.

• In more recent times, there has been a new surge in wearable technology worn on the ear, referred to as hearables.

• Hearing Aids is a category of hearables involving use of a microphone, speaker and amplifier. This amplifies sounds to help people with hearing impairment hear. Example, Phonak Audeo V.

• Hence, all the options are correct .

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.

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

Correct Choice: (a)

Solution:

- RNAi is a gene silencing technology that inhibits protein synthesis in target cells using double-stranded RNA.
- RNAi has huge significance within the Indian context, considering the deep-seated resistance over the years to Bt cotton and other genetically modified seeds. RNA-reliant solutions could be a viable alternative.
- RNAi is used in functional genomics (systematic analysis of loss-of-function phenotypes induced by RNAi triggers) and developing therapies for the treatment of viral infection, dominant disorders, neurological disorders, and many types of cancers (in vivo inactivation of gene products linked to human disease progression and pathology).

47. Recently, scientists observed the merger of giant 'blackholes' billions of lightyears away from the Earth.

What is the significance of this observation?

- (a) 'Higgs boson particles' were detected. (b) 'Gravitational waves' were detected.
(c) Possibility of inter-galactic space travel through 'wormhole' was confirmed. (d) It enabled the scientists to understand 'singularity'.

Correct Choice: (b)

Solution:

The LIGO detectors discovered the first gravitational waves produced by two giant merging blackholes in 2016.

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.

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

Correct Choice: (b)

Solution:

Antibiotic consumption in Humans: In 2014, India was the highest consumer of antibiotics, followed by China and the United States. In India, antibiotic FDCs are heavily prescribed even without the knowledge of a proven advantage over single compounds. Injudicious use of antibiotic FDCs could lead to emergence of bacterial strains resistant to multiple antibiotics. (However, the per capita consumption of antibiotics in India is much lower than in several other high-income countries).

• Antibiotic consumption in Animals: The use of antibiotics in food animals plays a major role in human health, as antibiotic-resistant bacteria can be transmitted between humans and animals through contact, in food products, and from the environment.

• Hence, 2 and 3 are correct.

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

- (a) A molecular scissors used in targeted gene editing (b) A biosensor used in the accurate detection of pathogens in patients
(c) A gene that makes plants pest-resistant (d) A herbicidal substance synthesized in genetically modified crops

Correct Choice: (a)

Solution:

CRISPR-Cas9 is a system used by bacterial cells to recognise and destroy viral DNA as a form of adaptive immunity. Using components of the CRISPR system, researchers can remove, add or alter specific DNA sequences in the genome of higher organisms.

- The gene editing tool has two components — a single-guide RNA (sgRNA) that contains a sequence that can bind to DNA, and the Cas9 enzyme which acts as a molecular scissor that can cleave DNA.

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

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

Correct Choice: (b)

Solution:

Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease. The virus is transmitted through contact with the blood or other body fluids of an infected person. (HIV also gets transmitted via the exchange of a variety of body fluids from infected individuals, such as blood, breast milk, semen and vaginal secretions)

- The hepatitis B vaccine is the mainstay of hepatitis B prevention. WHO recommends that all infants receive the hepatitis B vaccine as soon as possible after birth, preferably within 24 hours. (Hence, option b is not correct)
- Hepatitis B is a global public health threat and the world's most common serious liver infection. It is up to 100 times more infectious than the HIV/AIDS virus.
- In those people who develop symptoms from acute infection, the average time from exposure to symptoms ranges from 2 to 12 weeks. However, most people who are infected with the hepatitis C virus do not develop symptoms. Most people with chronic hepatitis C virus infection do not have any symptoms or have general, or common symptoms such as chronic fatigue and depression. Many people eventually develop chronic liver disease, which can range from mild to severe, including cirrhosis (scarring of the liver) and liver cancer. Chronic liver disease in people with hepatitis C usually happens slowly, without any signs or symptoms, over several decades.

Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease. The virus is most commonly transmitted from mother to child during birth and delivery, as well as through contact with blood or other body fluids

51. Which one of the following statements is not correct?

- (a) Hepatitis B virus is transmitted much like HIV.
- (b) Hepatitis B, unlike Hepatitis C, does not have a vaccine.
- (c) Globally, the number of people infected with Hepatitis B and C viruses are several times more than those infected with HIV
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Correct Choice: (b)

Solution:

Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease. The virus is transmitted through contact with the blood or other body fluids of an infected person.

(HIV also gets transmitted via the exchange of a variety of body fluids from infected individuals, such as blood, breast milk, semen and vaginal secretions)

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Most people with chronic hepatitis C virus infection do not have any symptoms or have general, or common symptoms such as chronic fatigue and depression. Many people eventually develop chronic liver disease, which can range from mild to severe, including cirrhosis (scarring of the liver) and liver cancer.

Chronic liver disease in people with hepatitis C usually happens slowly, without any signs or symptoms, over several decades .

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

1. Jagirdars were holders or 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

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

Correct Choice: (d)

Solution:

The Sultan was the fountain pen of judiciary system in Mughal period. He was all in all in the state. He was responsible for any kind of error in the state. The second agency of judiciary was the Qazi. Qazi had a bigger role in the judiciary system in the state and he held the court and gave justice. Whereas Jagirdars were those mansabdars who were given salary in lieu of military service in terms of jagirs(land). Hence statement 1 is not correct. The judicial and police functions were performed locally by zamindars.

• An important feature of the jagir system was shifting of jagir holders from one jagir to another for administrative reasons. This system of transfers checked the jagirdars from developing local roots. Thus jagirs were transferable and could be seized too. Zamindars on the other hand were hereditary. The zamindars were present in practically every part of the Mughal Empire and held the most significant position in the agrarian structure of Mughal India.

Hence statement 2 is not correct.

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

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

Correct Choice: (b)

Solution:

The unit of application of ceiling differs from State to State. In Andhra Pradesh, Assam, Bihar, Punjab, Haryana, Uttar Pradesh, West Bengal, Madhya Pradesh and Maharashtra, it is on the basis of an 'land holder', whereas in the other States it is on the basis of a 'family'.

• Moreover, there were a list of exemptions to ceiling limits by different states.

• In order to bring about uniformity, a new policy was evolved in 1971. The main features were: o Lowering of ceiling to 28 acres of wet land and 54 acres of unirrigated land o A change over to family rather than the individual as the unit for determining land holdings lowered ceiling for a family of five. Fewer exemptions from ceilings

Retrospective application of the law for declaring benami transactions null and void; and

No scope to move the court on ground of infringement of fundamental rights.

• Therefore, Options (a) and (d) are not correct.

• After Independence, the immediate goal of the Government was to increase foodgrains production by: (i) switching over from cash crops to food crops;

(ii) intensification of cropping over already cultivated land; and ; (iii) increasing cultivated area by bringing cultivable and fallow land under plough.

• Therefore, Land reforms were not focussed on cash crops and hence it did not lead to cash crops being predominant form of cultivation. Also, the Land reforms in Haryana and Punjab were the reason for introducing Green Revolution.

It focussed more on food crops production as predominant form of cultivation and not cash crops.

Therefore, Option (c) is not correct.

• The Land Reforms in India aimed at the redistribution of ownership holdings and reorganising operational holdings from the view point of optimum utilisation of land. It has also aimed at providing security of tenure, fixation of rents and conferment of ownership.

Hence, option (b) is correct.

54. The Global Competitiveness Report is published by the

- (a) International Monetary Fund (b) United Nations Conference on Trade and Development
(c) World Economic Forum (d) World Bank

Correct Choice: (a)

Solution:

The Global Competitiveness Report (GCR) is a yearly report published by the World Economic Forum

55. 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?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Correct Choice: (a)

Solution:

Main Provisions of Charter Act, 1833

• Monopoly of East India Company to trade with India was brought to an end but the company retained the trade with China and the trade in tea. Hence statement 1 is correct.

• The company's shareholders were given a 10.5 percent dividend on the revenue in India.

• The company was allowed to continued territorial possession for period of 20 years i.e. from 1833 to 1853, without prejudice to the sovereignty of the Crown. The company was held in trust to the Crown.

Hence statement 2 is correct.

• The Charter Act of 1813 required the Company to maintain its territorial and commercial accounts separately.

By this Act the Company was put under greater control of the British Crown, but could retain its hold on the details of administration and Indian revenues.

From 1853, the revenues of India were controlled by the British Parliament.

Hence, Statement 3 is not correct.

56. 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?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Correct Choice: (c)

Solution:

The Swadeshi Movement had its genesis in the anti partition movement which was started to oppose the British decision to partition Bengal.

• The Swadeshi Movement was the great emphasis given to self reliance or 'Atmasakti' as a necessary part of the struggle against the Government.

One of the major planks of the programme of self reliance was Swadeshi or national education.

In August 1906, the National Council of Education was established.

The Council defined its objectives in this way. . . 'to organize a system of Education Literary; Scientific and Technical on National lines and under National control from the primary to the university level.

The most important aspect of the movement was a focus on self reliance or Atmashakti which led to the development of indigenous industries.

57. Consider the following pairs: Movement/Organization Leader

1. All India Anti Untouchability League : Mahatma Gandhi

1. All India Kisan Sabha : Swami Sahajanand Saraswati

2. Self-Respect Movement : E. V. Ramaswami Naicker

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

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Correct Choice: (d)

Solution:

In order to better organize the campaign for the amelioration of the untouchables' condition, Gandhi set up a new body in October 1932.

It was first named the All India Anti -Untouchability League and later renamed the Harijan Sevak Sangh.

Gandhi started publishing a weekly journal called "Harijan" on 11 February 1933 from Yerwada Jail during British rule. Hence pair 1 is correctly matched.

• All India Kisan Congress Sabha, 1936 was founded in Lucknow in April 1936 with Swami Sahjanand Saraswati as the President and N.G. Ranga as the general secretary.

Hence, pair 2 is correctly matched.

• E. V. Ramaswami Naicker organized the "Self Respect Movement", designed as Dravidian Uplift, seeking to expose Brahminical tyranny and the deceptive methods by which they controlled all spheres of Hindu life.

Hence, pair 3 is correctly matched.

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

(a) Chanhudaro

(b) Kot Diji

(c) Sohgaoura

(d) Desalpur

Correct Choice: (c)

Solution:

• Sohgaoura is located in Gorakhpur district of U.P. is a copper plate inscription found here. Here Ashokan inscriptions were found. Whereas, Chanhudaro, Kot Diji, Desalpur are Harappan sites.

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

(a) Kanganahalli

(b) Sanchi

(c) Shahbazgarhi

(d) Sohgaoura

Correct Choice: (a)

Solution:

Kanaganahalli is about 3 km from Sannati, Karnataka. Here, excavation found mentions 'Ranyo Ashoka' (King Ashoka) mentioned along with the stone portrait of Ashoka.

60. Consider the following statements:

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

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

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Correct Choice: (d)

Solution:

The emergence of Bodhisattva is central to Mahayana sect of Buddhism, which emerged during the fourth council of Buddhism held in 1st century A.D at Kashmir during the reign of Kanishka. Bodhisattvas were perceived as deeply compassionate beings who accumulated merit through their efforts but used this not to attain Nibbana and thereby abandon the world but to help others.

The worship of images of the Buddha and Bodhisattvas became an important part of this tradition.

Hence all the statements are correct.

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

(a) It was considered a source of income for the State, a sort of tax paid by the people.

(b) It was totally absent in the Madhya Pradesh and Kathiawar region of the Gupta Empire.

(c) The forced labourer was entitled to weekly wages.

(d) The eldest son of the labourer was sent as the forced labourer

Correct Choice: (a)

Solution:

Forced labour (vishti) is a forced labour which became more common than before in 300-600C.

It is mentioned alongwith taxes in land grant inscriptions which suggests that it was considered as a source of income for the state, a sort of tax paid by the people.

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

- (a) Tobacco, cocoa and rubber
(b) Tobacco, cotton and rubber
(c) Cotton, coffee and sugarcane
(d) Rubber, coffee and wheat

Correct Choice: (a)

Solution:

After the voyages of Christopher Columbus in 1492, the Colombian exchange brought New World crops such as maize, potatoes, sweet potatoes, and manioc to Europe, and Old World crops such as wheat, barley, rice, and turnips, and livestock including horses, cattle, sheep, and goats to the Americas.

63. 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?

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

Correct Choice: (a)

Solution:

• Statement 1 is correct: Asiatic Lion is found naturally in India only. Gir National Park is the last natural habitat of this species. • Statement 2 is not correct: The Bactrian camel or Double-humped camel is a large, even-toed ungulate native to the steppes of Central Asia. In India, it is found in the Nubra valley. • Statement 3 is not correct: One-horned rhino is naturally found in areas of Assam such as Kaziranga National Park, India and also in Chitwan National Park (CNP) of Nepal.

64. 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?

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

Correct Choice: (a)

Solution:

Pandharpur is a well known pilgrimage town on the banks of Chandrabhaga River in Solpur district, Maharashtra, India.

- Tiruchirappalli District is located along the Kaveri River in Tamil Nadu, India.
- Hampi is city near the Tungabhadra River, with numerous temples, farms and trading markets.

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

- (a) poverty rates vary from State to State
(b) price levels vary from State to State
(c) Gross State Product varies from State to State
(d) quality of public distribution varies from State to State

Correct Choice: (b)

Solution:

The Planning Commission methodology for estimating poverty at national and state level was regarded by some as inappropriate in giving a representative picture of the incidence of poverty in the country.

The main points of the criticism were:

- (a) the adjustment procedure;
- (b) the choice of deflators to represent price changes in the poverty line;
- (c) application of the same poverty line in all the states, which imply the absence of price differentials across the states;
- (d) use of a fixed consumption basket over time; and
- (e) the uniform consumption basket for all the states.

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

- (a) Creating the artificial rains in some regions
- (b) Reducing the frequency and intensity of tropical cyclones
- (c) Reducing the adverse effects of solar wind on the Earth
- (d) Reducing the global warming

Correct Choice: (d)

Solution:

The geo-engineering technique known as stratospheric aerosol injection (SAI) could limit rising temperatures that are causing climate change.

• Cloud thinning strategy would be used to shoot powder over cirrus clouds, which would thin out their coverage and alter their radiative effects over Earth.

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

- (a) Extraction of rare earth elements
- (b) Natural gas extraction technologies
- (c) Hydrogen fuel-based automobiles
- (d) Waste-to-energy technologies

Correct Choice: (d)

Solution:

Pyrolysis: Pyrolysis is the process of heating organic material at high temperatures in the absence of oxygen.

• Plasma Gasification: Plasma gasification is an extreme thermal process using plasma which converts organic matter into a syngas (synthesis gas) which is primarily made up of hydrogen and carbon monoxide.

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

- (a) Neyyar, Peppara and Shendurney Wildlife Sanctuaries; and Kalakad Mundanthurai Tiger Reserve
- (b) Mudumalai, Sathyamangalam and Wayanand Wildlife Sanctuaries; and Silent Valley National Park
- (c) Kaundinya, Gundla Brahmeswaram and Papikonda Wildlife Sanctuaries; and Mukurthi National Park
- (d) Kawal and Sri Venkateswara Wildlife Sanctuaries; and Nagarjunasagar –Srisailem Tiger Reserve

Correct Choice: (a)

Solution:

Located in the Western Ghats in the south of the country, the Agasthyamala Biosphere Reserve is a unique genetic reservoir of cultivated plants.

Three wildlife sanctuaries, Shendurney, Peppara and Neyyar, are located in the site, as well as the Kalakad Mundanthurai Tiger reserve.

69. 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?

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

Correct Choice: (d)

Solution:

Statement 1 is correct: Green sea turtles eat seagrasses and algae, though juveniles snack on crabs, sponges, and jellyfish. In the wild, they can live up to 80 years and grow up to five feet long. Once mature, it is the only sea turtle that is strictly herbivorous.

• Statement 2 is correct: Parrotfish are algae eaters. They obtain the algae by ripping small chunks of coral from a reef.

Many other herbivores thrive among the fish population. Other herbivores include the Japanese angelfish, yellow blot rabbitfish, and tilapia Statement 3 is correct: The diet of Manatees consists of water grasses, weeds, and algae.

Dugongs are related to manatees, which are both endangered and protected animals. These slow-moving herbivores graze on underwater grasses, rooting them out with bristled, sensitive snouts and chomping them with rough lips.

• Statement 4 is correct: Snakes that are viviparous nourish their developing young through a placenta and yolk sac, something that is highly unusual among reptiles. 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.

70. 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?

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

Correct Choice: (c)

Solution:

Blue-finned Mahseer is found naturally in the Cauvery river.

• The Irrawaddy dolphin is a critically endangered species. It is found near sea coasts and in estuaries and rivers in parts of the Bay of Bengal and Southeast Asia. In India, it is found in Lake Chilika and not the Chambal river.

The gangetic dolphin is found in the Chambal river.

• Rusty Spotted Cat is one of the world's smallest feline. The rusty spotted cat, one of the few wild cats that inhabit the forests of Andhra Pradesh, is among the animals in the Eastern Ghats.

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

- (a) They are considered harmful to marine ecosystems. (b) They are considered to cause skin cancer in children.
(c) They are small enough to be absorbed by crop plants in irrigated fields. (d) They are often found to be used as food adulterants.

Correct Choice: (a)

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.

Microbeads, small pellets of plastic, extensively used in personal care products such as shampoo, baby lotion and face cream and considered toxic to marine life, are being banned internationally.

72. Building 'Kalyana Mandapas' was a notable feature in the temple construction in the kingdom of

- (a) Chalukya (b) Chandela
(c) Rashtrakuta (d) Vijayanagara

Correct Choice: (d)

Solution:

A kalyana mandapa was meant to celebrate divine weddings in Vijayanagara Empire.

73. 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?

(a) 1 only

(b) 1 and 2 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (a)

Solution:

• In the revenue administration of Delhi Sultanate, the incharge of revenue collection was known as 'Amil'.

Hence statement 1 is correct.

• The initial Turkish conquests in India in the early 13th century displaced many local chiefs.

In order to consolidate, the Turkish rulers made revenue assignments (iqta), in lieu of cash, to their nobles. So, Iqtas were provinces or spheres of influence which were put under the charge of officers called 'Iqtadars' (governors). Iqta is an Arabic word and the institution had been in force in the early Islamic world as a form of reward for services to the state.

It was used in the Caliphate administration as a way of financing operations and paying civil and military officers.

It was not an ancient indigenous institution. Hence statement 2 is not correct.

• In Akbar's administration, the military department was headed by Mir Bakshi which looked after all matters pertaining to the military administration. He was also considered as the head of nobility.

Hence statement 3 is not correct.

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?

(a) 1 and 2 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

Correct Choice: (b)

Solution:

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

Moderates supported the First World War.

Hence statement 2 is not correct.

Congress was declared illegal by British government after the launch of second phase of Civil Disobedience Movement.

It was not a factor that favoured in launching of second phase of Civil Disobedience Movement

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?

(a) 1 only

(b) 1 and 2 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (d)

Solution:

Tej Bahadur Sapru was a prominent Indian freedom fighter, lawyer and politician.

When the Montagu report of 1918 was made public, there was a divide in the Congress over it.

The moderates welcomed it while the extremists opposed it. This led to a schism in the Congress with moderate leaders forming the "Indian National Liberal Federation" in 1919.

The party (INLF) was founded by Surendra Nath Banarjea and some of its prominent leaders were Tej Bahadur Sapru, V. S. Srinivasa Sastri and M. R. Jayakar.

- KC Neogy, was an Indian politician from West Bengal. He was a member of the Constituent Assembly of India, member of the first Cabinet of independent India and the chairman of the first Finance Commission of India.
- Purnanand Joshi, one of the early leaders of the communist movement in India. He was the first general secretary of the Communist Party of India from 1935–47.
- Hence all the pairs given are correctly matched.

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

- (a) Tansen was the title given to him by Emperor Akbar. (b) Tansen composed Dhrupada on Hindu gods and goddesses.
- (c) Tansen composed songs on his patrons. (d) Tansen invented many Ragas

Correct Choice: (a)

Solution:

Tansen was the most important musician during the reign of Akbar & is credited with composing many ragas.

Tansen was one of the best known dhrupad singers and one of the nine jewels of Emperor Akbar's court. He composed songs on his patrons.

Tansen was the title given to him by Raja Vikramjit of Gwalior. Tansen was a court musician in the darbar of Raja Ramachandra of Bandavagarh (Rewa).

• When Akbar heard of his prodigious talent, he sent a 'firman' to the king asking for Tansen and made him one of the Navaratnas in his court. He gave him the title of 'Mian'.

Hence all the statements are correct except statement (a)

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

- (a) Humayun (b) Akbar
- (c) Jahangir (d) Shah Jahan

Correct Choice: (c)

Solution:

With the establishment of the Mughal empire, the Mughal School of painting originated in the reign of Akbar in 1560 A.D.

Emperor Akbar was keenly interested in the art of painting and architecture.

During his reign, an illustrated manuscript of the Tuti-nama appears to be the first work of the Mughal School.

The style of painting in this manuscript shows the Mughal style in its formative stage. Shortly after that, between 1564-69 A.D. was completed a very ambitious project in the form of Hamzanama illustrations on cloth, originally consisting of 1400 leaves in seventeen volumes. Each leaf measured about 27"x20".

The style of Hamzanama is more developed and refined than that of the Tutinama

• Under Jahangir, painting acquired greater charm, refinement and dignity. He had great fascination for nature and took delight in the portraiture of birds, animals and flowers.

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

- (a) Manas National Park (b) Namdapha National Park
- (c) Neora Valley National Park (d) Valley of Flowers National Park

Correct Choice: (d)

Solution:

A sprawling expanse of 87 square kilometers in the Chamoli District of Uttarakhand, Valley of Flowers is set in the backdrop of the majestic Zaskar Ranges.

The valley is situated at a very remarkable area, which is the confluence point of Himalayan ranges, Zaskar and Western and Eastern Himalayas. This fairyland located in the high altitudes of Himalayas is protected by snowy mountains.

79. Atal Innovation Mission is set up under the

- (a) Department of Science and Technology
- (c) NITI Aayog

- (b) Ministry of Labour and Employment
- (d) Ministry of Skill Development and Entrepreneurship

Correct Choice: (c)

Solution:

The Atal Innovation Mission (AIM) is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the length and breadth of the country.

• AIM's objectives are to create and promote an ecosystem of innovation and entrepreneurship across the country at school, university, research institutions, MSME and industry levels.

80. On 21st June, the Sun

- (a) does not set below the horizon at the Arctic Circle
- (c) shines vertically overhead at noon on the Equator

- (b) does not set below the horizon at Antarctic Circle
- (d) shines vertically overhead at the Tropic of Capricorn

Correct Choice: (a)

Solution:

On 21st June, the Sun is directly over Tropic of Cancer.

Geometrically, it means the Sun is normal (90°) to Tropic of Cancer and makes an angle of 47° to the Arctic Circle. As such, the Sun is above the horizon for all areas north of Arctic Circle.

The entire area in the Arctic circle experiences day.

The North Pole is inclined towards the sun and the places beyond the Arctic Circle experience continuous daylight for about six months.

Since a large portion of the Northern Hemisphere is getting light from the sun, it is summer in the regions north of the equator.

The longest day and the shortest night at these places occur on 21st June.

• At this time in the Southern Hemisphere all these conditions are reversed. It is winter season there. The nights are longer than the days.

This position of the earth is called the 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?

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

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

Correct Choice: (d)

Solution:

Statement 1 is correct: A major direct source of nitrous oxide from agricultural soils is that of synthetic fertilizer use.

Where large applications of fertilizer are combined with soil conditions favorable to denitrification, large amounts of nitrous oxide can be produced and emitted to the atmosphere.

• Statement 2 is correct: Ammonia is a common byproduct of animal waste due to the often inefficient conversion of feed nitrogen into animal product.

Emissions of ammonia from livestock farming are responsible for the acidification and eutrophication of deposited ammonia in the environment.

• Statement 3 is correct: Reactive nitrogen includes ammonia, nitrate, nitric oxide (NO), nitrous oxide (N₂O). Livestock and Poultry are both responsible for emissions of these.

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

- (a) Recently discovered uranium deposits
- (b) Tropical rain forests
- (c) Underground cave systems
- (d) Water reservoirs

Correct Choice: (d)

Solution:

Aliyar is a village located near Pollachi Town in Coimbatore district in Tamil Nadu, India. The famous Aliyar Reservoir is located in this village.

• Isapur Dam is an earthfill dam on Penganga river near Pusad in the state of Maharashtra.

• The Kangsabati Reservoir Project was started in 1956 as part of the Indian Second Five year Plan to provide water to 3,484.77 square kilometres (1,345.48 sq mi) of land in the districts of Midnapur(erstwhile), Bankura, and Hooghly.

It involves irrigation land using water from the Kangsabati River, as well as the Shilabati and the Bhoiobbanki rivers.

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?

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

Correct Choice: (b)

Solution:

Statement 1 is not correct and statements 2 and 3 are correct:

H-CNG is a blend of hydrogen and CNG, the ideal hydrogen concentration being 18%. Compared to conventional CNG, use of H CNG can reduce emission of carbon monoxide up to 70% and 15% reduction in total hydro carbon emissions, besides enabling up to 5% savings in fuel.

• Statement 4 is not correct: In its report to the Supreme Court, the EPCA has estimated that to fuel Delhi's 5,500 buses, about 400 tonnes H-CNG would be needed per day.

Setting up four fuel dispensing facilities would cost Rs 330 crore, which can be funded from the Environment Compensation Charge (ECC) fund made up of cess on commercial vehicles entering Delhi, it said. For consumers who pay Rs 42 per kg for CNG, the cost of H-CNG would not be more than Rs 43 per kg

84. Why are dewdrops not formed on a cloudy night?

- (a) Clouds absorb the radiation released from the Earth's surface.
- (b) Clouds reflect back the Earth's radiation.
- (c) The Earth's surface would have low temperature on cloudy nights.
- (d) Clouds deflect the blowing wind to ground level.
- (e) Dew is not formed: • on cloudy nights because cloudy nights are warmer than clear nights • in shady places because air cannot move there freely • on windy nights because wind carries away the moist air The atmosphere, heated by the absorption of Earth radiation, in turn radiates heat back to the Earth's surface increasing the Earth's surface temperature .

Correct Choice: (b)

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?

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

Correct Choice: (b)

Solution:

The Parliament passed the Thirty-ninth amendment to the Constitution which removed the authority of the Supreme Court to adjudicate petitions regarding elections of the President, Vice President, Prime Minister and Speaker of the Lok Sabha.

Instead, a body constituted by Parliament would be vested with the power to resolve such election disputes.

- Amendments were also made to the Representation of Peoples Acts of 1951 and 1974 and placed in the Ninth Schedule along with the Election Laws Amendment Act, 1975 in order to save the Prime Minister from embarrassment if the apex court delivered an unfavourable verdict.

- The National Judicial Appointments Commission (NJAC) was a body tasked with appointing judges to the higher judiciary in India.

Article 124 of the Constitution was amended through the 99th Amendment to reflect the change in the system of appointments from the collegium system, in which a body of judges would be consulted by the President to appoint the judges, with the judiciary's opinion being final. The composition of the NJAC includes as the Chief Justice of India, the two senior most judges of the Supreme Court, the Law Minister and two "eminent persons".

A sub-committee was further constituted to appoint the "eminent persons". The composition of the sub-committee includes the Prime Minister, the Chief Justice, and the Leader of the Opposition.

- The composition of the NJAC, therefore, presents a problem it allows excessive executive interference in the appointment of judges. More specifically, the term "eminent persons" has not been defined with clarity, leaving a lot to the discretion of the executive. Therefore, it was natural for the judiciary to fear the abuse of such discretion by the executive, resulting in political appointments to the Supreme Court and the High Courts.

Petitions were filed before the Supreme Court to strike down the 99th Amendment as being unconstitutional.

The Court reasoned that the 99th Amendment was unconstitutional. In arriving at this conclusion, the Court evaluated the theory of separation of powers and held that the interference of the executive in the appointment of judges to the higher judiciary was a violation of the theory.

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?

(a) 1 and 2

(b) 3 only

(c) 3 and 4 only

(d) 1, 3 and 4

Correct Choice: (c)

Solution:

A judge may be removed from office through a motion adopted by Parliament on grounds of 'proven misbehaviour or incapacity'. While the Constitution does not use the word 'impeachment', it is colloquially used to refer to the proceedings under Article 124 (for the removal of a Supreme Court judge) and Article 218 (for the removal of a High Court judge).

- The Judges Enquiry Act (1968) regulates the procedure relating to the removal of a judge of the Supreme Court by the process of impeachment.

Impeachment procedure:

A removal motion signed by 100 members (in the case of Lok Sabha) or 50 members (in the case of Rajya Sabha) is to be given to the Speaker/Chairman.

The Speaker/Chairman may admit the motion or refuse to admit it.

If it is admitted, then the Speaker/Chairman is to constitute a three-member committee to investigate into the charges.

The committee should consist of (a) the chief justice or a judge of the Supreme Court, (b) a chief justice of a high court, and (c) a distinguished jurist

If the committee finds the judge to be guilty of misbehaviour or suffering from an incapacity, the House can take up the consideration of the motion.

After the motion is passed by each House of Parliament by a special majority, an address is presented to the president for removal of the judge.

Finally, the president passes an order removing the judge.

87. The Ninth Schedule was introduced in the Constitution of India during the prime ministership of

(a) Jawaharlal Nehru

(b) Lal Bahadur Shastri

(c) Indira Gandhi

(d) Morarji Desai

Correct Choice: (a)

Solution:

To ensure that agrarian reform legislation did not run into heavy weather, the legislature amended the Constitution in the year 1951 which inserted Ninth Schedule during the tenure of Prime Minister Pt. Jawahar Lal Nehru.

• Article 31-B was inserted by the First Constitutional (Amendment) Act 1951 which states that without prejudice to the generality of the provisions contained in Article 31 -A, none of the Acts and Regulations specified in the Ninth Schedule nor any of the provisions thereof shall be deemed to be void, or ever to have become void, on the ground that such Act, Regulation or provisions is inconsistent with, or takes away or abridges any of the rights conferred by , any provisions of this part, and notwithstanding any judgment , decree or order of any court or tribunal to the contrary, each of the said Acts and Regulations shall, subject to the power of any competent legislature to repeal or amend it, continue in force.

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 product

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (a)

Solution:

Adequate capital investment to meet the burgeoning energy needs of the country was not forthcoming from the private coal mine owners. Unscientific mining practices adopted by some of them and poor working conditions of labour in some of the private coal mines became matters of concern for the Government.

On account of these reasons, the Central Government took a decision to nationalise the private coal mines.

The nationalisation was done in two phases, the first with the coking coal mines in 1971 -72 and then with the non-coking coal mines in 1973 . • Indira Gandhi was the Prime Minister of the country from 1971-1973.

Statement 1 is correct.

• Statement 2 is not correct

After the Supreme Court cancelled the coal block allocations in 2014.

• To manage and reallocate the cancelled blocks in a transparent and accountable manner, the Coal Mines (Special Provisions) Act, 2015 was enacted. Enabling provisions were made in the above said Act for 'allocation of coal mines by way of auction and allotment for the sale of coal.'

• In a recent notification by the Government on 20th February, the government opened up commercial coal mining for the private sector on February 20, and approved the methodology for auction of coal mines / blocks for sale of coal.

• There will be an 'ascending forward auction' -- a two stage online auction comprising (i) technical bid and (ii) financial bid with initial and final price offers. The bid parameter will be the price offer in ₹/tonne which will be paid to the Stategovernment on the actual production of coal.

• Statement 3 is not correct India is still one of the largest importer of Coal. Domestic coal has been able to meet only 75% of our annual coal demand. The shortfall in local coal availability is met through imports of around 200 mt.

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?

(a) 1 and 2 only

(b) 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

Correct Choice: (a)

Solution:

The expression 'office of profit' has not been defined in the Constitution or in the Representation of the People Act, 1951. They have been mentioned in the Article 102 and 191 of the Constitution.

• According to Article 102 (1) (a), a person shall be disqualified as a member of Parliament for holding any office of profit under the government of India or the government of any state, 'other than an office declared by Parliament by law not to disqualify its holder'. Article 191 (1) (a) has a similar provision for the members of state assemblies. Hence, statement 3 is not correct.

• Parliament has also enacted the Parliament (Prevention of Disqualification) Act, 1959, which has been amended several times to expand the exempted list.

• There is no bar on how many offices can be exempted from the purview of the law.

Hence, statement 1 is correct.

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?

(a) Third Schedule

(b) Fifth Schedule

(c) Ninth Schedule

(d) Twelfth Schedule

Correct Choice: (b)

Solution:

The Indian 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.

The framework for protection of the rights of tribal and indigenous people is further strengthened by the Recognition of Forest Rights Act, 2006 which protects the individual and community rights of tribal people in forest areas and their right to free and prior informed consent in event of their displacement and resettlement.

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

(a) anti-malarial drug

(b) biodiesel

(c) pulp for paper industry

(d) textile fibre

Correct Choice: (d)

Solution:

Girardinia diversifolia (Himalayan nettle), a fibre yielding plant, has become an important livelihood option for people living in the remote mountainous villages of the Himalayas.

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.

(a) 1 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (d)

Solution:

With the development of remote sensing from space, satellite data offers the possibility for measuring land surface temperature over the entire globe with sufficiently high temporal resolution and with complete spatially averaged rather than point values.

• The global food supply is being monitored with satellite imagery and the Normalized Difference Vegetation Index (NDVI). Near-infrared radiation is being used to detect healthy vegetation in agriculture. Healthy vegetation reflects green light and absorbs red and blue light. The green light that our eyes see is chlorophyll created by plants during photosynthesis.

Chlorophyll will reflect more light in the green and near infrared spectrum compared to other wavelengths. This is why near infrared radiation in combination with NDVI is one of the primary remote sensing applications in agriculture and the environment.

• Remote sensing from satellites can deliver information on GHG soil emissions by estimating tropospheric, near-surface CO₂ and CH₄ concentrations based on the measurement of the intensity of the reflected sunlight in small wavelength bands in the visible and short-wavelength IR portion of the spectrum.

93. Consider the following states:

3. Caspian Sea : Kazakhstan
4. Mediterranean Sea : Morocco
5. Red Sea : Syria

Which of the pairs given above are correctly matched?

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

Correct Choice: **(b)**

Solution:

The Adriatic Sea is a body of water separating the Italian Peninsula from the Balkan peninsula. The countries with coasts on the Adriatic are Albania, Bosnia and Herzegovina, Croatia, Italy, Montenegro and Slovenia.

• Black Sea is a large inland sea situated at the southeastern extremity of Europe. It is bordered by Ukraine to the north, Russia to the northeast, Georgia to the east, Turkey to the south, and Bulgaria and Romania to the west.

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

- | | |
|-------------|-------------|
| (a) China | (b) India |
| (c) Myanmar | (d) Vietnam |

Correct Choice: **(b)**

Solution:

India has been the world's top rice exporter since the beginning of this decade. (2011-12)

• India's share in world exports of rice in recent years (2014-18) has stayed at 25-26 per cent, Thailand's has fluctuated between 22 and 25 per cent, and Vietnam's between 13 and 16 per cent.

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?

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

Correct Choice: **(a)**

Solution:

Bandarpunch is located at the western edge of the High Himalayan Range. It is part of the Sankari Range and lies within the Govind Pashu Vihar National Park and Sanctuary. It is a major watershed for the headwaters of the Yamuna River, whose source lies above Yamnotri, on the west end of the massif below White Peak.

• Bara-Sigri glacier which is the second longest glacier in Himalaya after Gangotri, is located in the Chandra Valley of Lahaul. The glacier feeds the Chenab River.

• Milam Glacier is a major glacier of the Kumaon Himalaya. It is a part of the Pithoragarh district of Uttarakhand, India, about 15 kilometres (9 mi) northeast of Nanda Devi. Mandakini is a tributary of the Alaknanda River which originates from the Chorabari Glacier near Kedarnath in Uttarakhand, India.

• Siachen Glacier is located in the eastern Karakoram range in the Himalayas. The glacier's melting waters are the main source of the Nubra River in the Indian region of Ladakh, which drains into the Shyok River.

• Zemu Glacier is the largest glacier in the Eastern Himalaya. It is located at the base of Kangchenjunga in the Himalayan region of Sikkim, India. Manas River is a transboundary river in the Himalayan foothills between southern Bhutan and India.

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

- | | |
|-------------------------------|--------------------------------------|
| (a) pesticides in agriculture | (b) preservatives in processed foods |
|-------------------------------|--------------------------------------|

(c) fruit-ripening agents

(d) moisturizing agents in cosmetics

Correct Choice: (a)

Solution:

Carbofuran, phorate, methyl parathion, monocrotophos, methyl demethon, prophenophos and triazophos are pesticides used in agriculture

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 recommendation 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?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

Correct Choice: (b)

Solution:

Statement 1 is not correct:

Article 4 of the Ramsar Convention states that "Each Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their wandering." It is not mandatory on the part of the Government of India to protect and conserve all the wetlands in the territory of India.

• Statement 2 is correct: Article 3 of the Ramsar Convention states that "The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory."

• Statement 3 is correct: As per Wetlands (Conservation and Management) Rules, 2010, a "wetland" means an area or of marsh, fen, peatland or water; natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six metres and includes all inland waters such as lakes, reservoir, tanks, backwaters, lagoon, creeks, estuaries and manmade wetland and the zone of direct influence on wetlands that is to say the drainage area or catchment region of the wetlands as determined by the authority.