

UPSC Prelims 2022 Answer Key with Explanation

Q1. "Rapid Financing Instrument" and "Rapid Credit Facility" are related to the provisions of lending by which one of the following?

- a) Asian Development Bank
- b) International Monetary Fund
- c) United Nations Environment Programme Finance Initiative
- d) World Bank

Answer: b

Explanation:

- **The Rapid Financing Instrument (RFI):** It is a lending facility of the **International Monetary Fund (IMF)** which provides rapid financial assistance. It is available to all member countries facing an urgent balance of payments need. The RFI was created as part of a broader reform to make the IMF's financial support more flexible to address the diverse needs of member countries. The RFI replaced the IMF's previous emergency assistance policy and can be used in a wide range of circumstances.
- **IMF's Rapid Credit Facility (RCF)** provides rapid concessional financial assistance to low-income countries (LICs) facing an **urgent balance of payments (BoP) need** with no ex-post conditionality where a full-fledged economic program is neither necessary nor feasible.

Therefore, option (b) is the correct answer.

Q2. With reference to the Indian economy, consider the following statements:

1. An increase in Nominal Effective Exchange Rate (NEER) indicates the appreciation of rupee.
2. An increase in the Real Effective Exchange Rate (REER) indicates an improvement in trade competitiveness.
3. An increasing trend in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER.

Which of the above statements are correct?

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

c) 1 and 3 only

d) 1, 2 and 3

Answer: c

Explanation:

- The nominal effective exchange rate (NEER) is an unadjusted weighted average rate at which one country's currency exchanges for a basket of multiple foreign currencies. The nominal exchange rate is the amount of domestic currency needed to purchase foreign currency. **If a domestic currency increases against a basket of other currencies inside a floating exchange rate regime, NEER is said to appreciate. If the domestic currency falls against the basket, the NEER depreciates. So, statement 1 is correct.**
- The Real Effective Exchange Rate (REER) is the weighted average of a country's currency in relation to an index or basket of other major currencies. The weights are determined by comparing the relative trade balance of a country's currency against that of each country in the index. **An increase in a nation's REER is an indication that its exports are becoming more expensive and its imports are becoming cheaper. This results in losing its trade competitiveness. So, statement 2 is not correct.**
- **REER remains in sync with the inflationary trends—the upward biases in REER due to inflation was recently seen in India. An increase in domestic inflation relative to inflation in other countries is likely to cause an increasing divergence between NEER and REER. The increasing difference between trends of NEER and REER in recent times was due to India's domestic inflation being higher relative to the six major currencies considered. So, statement 3 is correct.**

Therefore, option (c) is the correct answer.

Q3. With reference to the Indian economy, consider the following statements:

1. If the inflation is too high, Reserve Bank of India (RBI) is likely to buy government securities.
2. If the rupee is rapidly depreciating, RBI is likely to sell dollars in the market.
3. If interest rates in the USA or European Union were to fall, that is likely to induce RBI to buy dollars.

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

Answer: b

Explanation:

- Open market operations, or OMOs, are the purchase and sale of government securities by Reserve Bank of India (RBI) on the Centre's behalf to streamline money supply and interest rates. OMOs aim to control the supply of money or existing liquidity in the economy. **In case of an inflationary situation, RBI adopts a contractionary monetary policy i.e., it sells government securities and absorbs the excess money from the financial flow.** Amid a recessionary trend, RBI is keen to boost money supply in the market and ensure adequate credit availability for investment and production. **So, it buys securities, increasing the money supply.** So, statement 1 is not correct.
- Interest rate movements in a foreign economy can stimulate action on the part of RBI. If the Federal Reserve reduces money supply in the US, interest rates there will increase. This will reduce Financial Institutional Investments (FII) into India, because US debt investments would have become more attractive. **The reduced demand for the rupee due to less interest on the part of global institutional investors, will cause the rupee to depreciate.** In response, RBI can sell dollars from its reserves to prop up the Indian currency. On the other hand, if interest rates in the US or the EU were to fall, FIIs will ramp up investments in India. **The resultant demand for rupees will cause the rupee to appreciate.** In response, RBI will buy dollars and inject rupees into the system. So, statement 2 and statement 3 are correct.

Therefore, option (b) is the correct answer.

Q4. With reference to the “G20 Common Framework”, consider the following statements :

1. It is an initiative endorsed by the G20 together with the Paris Club.
2. It is an initiative to support Low Income Countries with unsustainable debt.

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

Answer: c

Explanation:

- The Common Framework for debt treatment beyond the Debt Service Suspension Initiative (DSSI) is an **initiative endorsed by the G20, together with the Paris Club**, to support, in a structural manner, **Low Income Countries with unsustainable debt**. The Common Framework represents a step change for official creditors, bringing together the Paris Club and G20 official bilateral creditors in a coordinated process. **So, statement 1 and statement 2 are correct.**
- To date, three countries have requested a Common Framework treatment and in April 2021 there has been the launch of the first Creditor Committee for a debt treatment for Chad.

Therefore, option (c) is the correct answer.

Q5. With reference to the Indian economy, what are the advantages of “Inflation-Indexed Bonds (IIBs)”?

1. Government can reduce the coupon rates on its borrowing by way of IIBs.
2. IIBs provide protection to the investors from uncertainty regarding inflation.
3. The interest received as well as capital gains on IIBs are not taxable.

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

Answer: a

Explanation:

- Inflation-Indexed bonds, or IIBs, are securities designed to help protect investors from inflation. IIBs are indexed to inflation so that the principal and interest payments rise and fall with the rate of inflation. Government can reduce coupon rates on its borrowing by way of IIBs. **So, statement 1 is correct.**
- An inflation-indexed bond protects both investors and issuers from the uncertainty of inflation over the life of the bond. **So, statement 2 is correct.**
- Extant tax provisions will be applicable on interest payment and capital gains on IIBs. **There will be no special tax treatment for these bonds. So, statement 3 is not correct.**

Therefore, option (a) is the correct answer.

Q6. With reference to foreign-owned e-commerce firms operating in India, which of the following statements is/are correct?

1. They can sell their own goods in addition to offering their platforms as market-places.
2. The degree to which they can own big sellers on their platforms is limited.

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

Answer: b

Explanation:

- The FDI Policy **prohibits** retail trading in any form through e-commerce for the companies with FDI engaging in the activities **of multi-brand retail trading**. Multi-brand retail trading means **selling different products of various brands through one platform**. India has not allowed FDI in inventory-driven models of e-commerce. The inventory model, which Walmart and Amazon use in the United States, is where the goods and services are owned by an e-commerce firm that sells directly to retail customers. **The restriction is aimed largely at protecting India's vast unorganized retail sector** that does not have the clout to purchase at scale and offer big discounts. **So, statement 1 is not correct.**
- India amended its FDI policy in e-commerce marketplaces in 2018 to classify any vendor accounting for more than 25% of the platform's total sales as "controlled" by the marketplace operator. **So, no seller must exceed 25 per cent of the total business on any foreign e-commerce platform.** **So, statement 2 is correct.**

Therefore, option (b) is the correct answer.

Q7. Which of the following activities constitute real sector in the economy?

1. Farmers harvesting their crops
2. Textile mills converting raw cotton into fabrics
3. A commercial bank lending money to a trading company
4. A corporate body issuing Rupee Denominated Bonds overseas

Select the correct answer using the code given below:

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

Answer: a

Explanation:

- The real sector of an economy is the key section as activities of this sector persuade economic output and is represented by those economic segments that are essential for the progress of GDP of the economy. So, in this sense, farmers harvesting their crops and textile mills converting raw cotton into fabrics are included under real sector of an economy.
- The real sector of the economy consists of enterprises (nonfinancial corporations), households and nonprofit institutions serving households. From the point of view of monetary and financial statistics the households and nonprofit institutions serving households are in some cases combined into one subsector named “Other resident sectors”.
- A commercial bank lending money to a trading company and a corporate body issuing Rupee denominated Bonds overseas does not constitute the real sector.

Therefore, option (a) is the correct answer.

Q8. Which one of the following situations best reflects “Indirect Transfers” often talked about in media recently with reference to India?

- a) An Indian company investing in a foreign enterprise and paying taxes to the foreign country on the profits arising out of its investment
- b) A foreign company investing in India and paying taxes to the country of its base on the profits arising out of its investment
- c) An Indian company purchases tangible assets in a foreign country and sells such assets after their value increases and transfers the proceeds to India
- d) A foreign company transfers shares and such shares derive their substantial value from assets located in India.

Answer: d

Explanation:

- Indirect transfers refer to situations where when foreign entities own shares or assets in India, the shares of such foreign entities are transferred instead of a direct transfer of the underlying assets in India.
- When shares of foreign company or interest in any entity incorporated or registered outside India is transferred and if such shares or interest derives its substantial value from assets located in India directly or indirectly, then such transfer is commonly referred to as 'Indirect Transfer'. In case of such indirect transfer, the income shall be deemed to accrue or arise in India and would be taxable for all including not ordinarily residents as well as non-residents.

Therefore, option (d) is the correct answer.

Q9. With reference to the expenditure made by an organization or a company, which of the following statements is/are correct?

1. Acquiring new technology is capital expenditure.
2. Debt financing is considered capital expenditure, while equity financing is considered revenue expenditure.

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

Answer: a

Explanation:

- Capital expenditures (CapEx) are funds used by a company to acquire, upgrade, and maintain physical assets such as property, plants, buildings, **technology**, or equipment. CapEx is often used to undertake new projects or investments by a company. Types of capital expenditures can include purchases of property, equipment, land, **computers**, furniture, and **software**. **So, statement 1 is correct.**
- Debt financing occurs when a firm raises money for working capital or capital expenditures by selling debt instruments to individuals and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise that the principal

and interest on the debt will be repaid. The other way to raise capital in debt markets is to **issue shares of stock in a public offering**; this is called **equity financing**. Both debt financing and equity financing are considered as capital expenditures. Revenue expenditures are the ongoing operating expenses, which are short-term expenses used to run the daily business operations.

So, statement 2 is not correct.

Therefore, option (a) is the correct answer.

Q10. With reference to the Indian economy, consider the following statements:

1. A share of the household financial savings goes towards government borrowings.
2. Dated securities issued at market-related rates in auctions form a large component of internal debt.

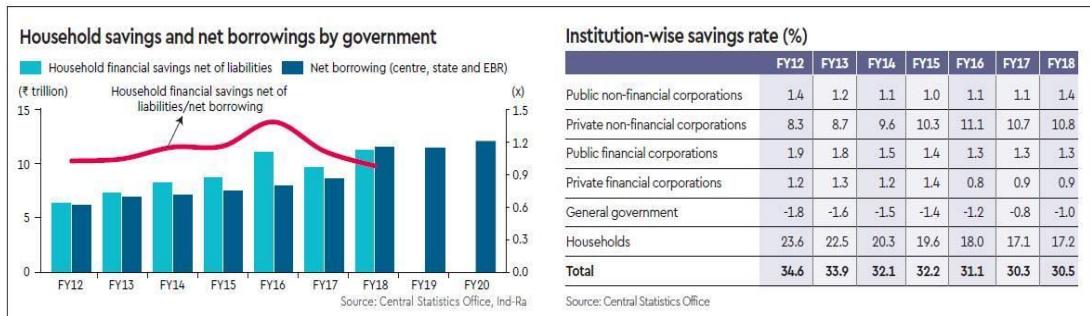
Which of the above statements are correct?

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

Answer: c

Explanation:

- 50.8% of households' savings in FY18 were in financial assets, followed by physical assets (48.1%) and gold/silver ornaments (1.1%). Deposits with banks are the single largest form of households' financial assets, followed by insurance funds, mutual funds and currency. As insurance companies and mutual/provident funds are key investors in government securities, a share of the household financial savings goes towards government borrowings. **So, statement 1 is correct.**



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- Internal Debt comprises loans raised in the open market, compensation and other bonds, etc. It also includes borrowings through treasury bills including treasury bills issued to State Governments, Commercial Banks and other Investors, as well as non negotiable, non-interest-bearing dated securities issued to International Financial Institutions. **So, statement 2 is correct.**

Therefore, option (c) is the correct answer.

Q11. Consider the following statements:

- Pursuant to the report of H.N. Sanyal Committee, the Contempt of Courts Act, 1971 was passed.
- The Constitution of India empowers the supreme court and High court to punish for contempt of themselves.
- The Constitution of India defines Civil Contempt and Criminal Contempt.
- In India, the Parliament is vested with the powers to make laws on Contempt of Court.

Which of the statements given above is/are correct?

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

Answer: b

Explanation:

- H. N. Sanyal committee set up in 1961 made a comprehensive examination of the law and problems relating to contempt of court. The recommendations of the committee were generally accepted. Pursuant to the report of the committee, the Contempt of Court Act, 1971 was passed by the parliament. So, statement 1 is correct.**
- Article 129 and 215 of the Constitution of India empower the Supreme Court and High Court respectively to punish people for their respective contempt. So, statement 2 is correct.**
- The Contempt of Courts Act of 1971 (and not the Constitution) defines civil and criminal contempt respectively. So, statement 3 is not correct.**
- Article 142 (2) states that “subject to the provisions of any law made in this behalf by Parliament” the Supreme Court shall have all and every power to make any order on punishment of any contempt of itself. Therefore, the Parliament can make laws on Contempt of Court. So, statement 4 is correct.**

Therefore, option (b) is the correct answer.

Q12. With reference to India, consider the following statements:

1. Government law officers and legal firms are recognized as advocates, but corporate lawyers and patent attorneys are excluded from recognition as advocates.

2. Bar Councils have the power to lay down the rules relating to legal education and recognition of law colleges.

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

Answer: b

Explanation:

- An Advocate is a person authorized to appear in a litigation on behalf of a party and who possess a law degree, enrolled with the Bar Council in accordance to the prescriptions laid by the Advocates Act, 1961. In this case, law firms are not recognised as advocates. A patent attorney is an individual who is entitled to deal with patent litigation by virtue of holding a law degree. A patent attorney or patent lawyer is an advocate. **So, statement 1 is not correct.**
- Functions of Bar Councils include to promote legal education and **to lay down standards of legal education.** This is done in consultation with the Universities in India imparting legal education and the State Bar Councils. They also have the power to recognise Universities whose degree in law shall be a qualification for enrolment as an advocate and for that purpose to visit and inspect Universities. **So, statement 2 is correct.**

Therefore option (b) is the correct answer.

Q13. Consider the following statements:

1. A bill amending the Constitution requires a prior recommendation of the President of India.

2. When a Constitution Amendment Bill is presented to the President of India, it is obligatory for the President of India to give his/her assent.

3. A Constitution Amendment Bill must be passed by a special majority and there is no provision for Joint Sitting.

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

Answer: b

Explanation:

- The procedure for the amendment of the Indian Constitution is laid down in Article 368 of the Constitution. The Constitutional Amendment bill can be introduced either by a minister or by a private member and **does not require prior permission of the President. So, statement 1 is not correct.**
- After duly passed by both the Houses of Parliament and ratified by the state legislatures, where necessary, the bill is presented to the President for assent. **The President must give his assent to the bill. He can neither withhold his assent to the bill nor return the bill for reconsideration of the Parliament. So, statement 2 is correct.**
- Each House of the Parliament must pass the bill separately by a special majority. In case of a disagreement between the two Houses, **there is no provision for holding a joint sitting of the two Houses for the purpose of deliberation and passage of the bill. So, statement 3 is correct.**

Therefore, option (b) is the correct answer.

Q14. Consider the following statements:

- 1. The Constitution of India classifies the ministers into four ranks viz. Cabinet Minister, Minister of State with Independent Charge, Minister of State and Deputy Minister.
- 2. The total number of ministers in the Union Government, including the Prime Minister, shall not exceed 15 percent of the total number of members in the Lok Sabha.

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

Answer: b

Explanation:

- **Council of Ministers** includes the three categories of ministers, that is, Cabinet Ministers, Ministers of State, and Deputy Ministers. **Its size and classification are, however, not**

mentioned in the Constitution. Its classification into a three-tier body is **based on the conventions of parliamentary government as developed in Britain.** It has, however, got a legislative sanction. **The Salaries and Allowances Act of 1952** defines a ‘minister’ as a ‘member of the council of ministers, by whatever name called, and includes a deputy minister’. **So, statement 1 is not correct.**

- The **91st Constitutional Amendment Act of 2003** has made provisions to limit the size of Council of Ministers. The total number of ministers, including the Prime Minister in the Central **Council of Ministers shall not exceed 15 per cent of the total strength of the Lok Sabha.** So, **statement 2 is correct.**

Therefore, option (b) is the correct answer.

Q15. Which of the following is/are the exclusive power(s) of Lok Sabha?

1. To ratify the declaration of Emergency
2. To pass a motion of no-confidence against the Council of Ministers
3. To impeach the President of India

Select the correct answer using the code given below:

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

Answer: b

Explanation:

- **All types of emergencies require approval of both the Houses.** The proclamation of National Emergency must be approved by both the Houses of Parliament within one month from the date of its issue. A proclamation imposing President’s Rule must be approved by both the Houses of Parliament within two months from the date of its issue. A proclamation declaring financial emergency must be approved by both the Houses of Parliament within two months from the date of its issue. **So, statement 1 is not correct.**
- **A no-confidence motion can be moved only in the Lok Sabha and not Rajya Sabha.** It can be moved by any member of the Lok Sabha. Rule 198 of the Rules of Procedure and conduct of Lok Sabha specifies the procedure for moving a no-confidence motion. **So, statement 2 is correct.**
- **Impeachment charges against the President can be initiated by either House of Parliament.** If the other House also sustains the charges and passes the impeachment resolution by a majority of two-thirds of the total membership, then the President stands removed from his office from the date on which the resolution is so passed. **So, statement 3 is not correct.**

Therefore, option (b) is the correct answer.

Q16. With reference to anti-defection law in India, consider the following statements:

1. The law specifies that a nominated legislator cannot join any political party within six months of being appointed to the House.
2. The law does not provide any time-frame within which the presiding officer has to decide a defection case.

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

Answer: b

Explanation:

- As per the Anti-defection Law, a nominated member of a House becomes disqualified for being a member of the House if he joins any political party after the expiry of six months from the date on which he takes his seat in the House. **Thus, she/he can join a political party before the expiration of 6 months after becoming a member. So, statement 1 is not correct.**
- Any question regarding disqualification arising out of defection is to be decided by the presiding officer of the House. **The law does not provide a time-frame within which the presiding officer has to decide a defection case. So, statement 2 is correct.**

Therefore, option (b) is the correct answer.

Q17. Consider the following statements:

1. Attorney General of India and Solicitor General of India are the only officers of the Government who are allowed to participate in the meetings of the Parliament of India.
2. According to the Constitution of India, the Attorney General of India submits his resignation when the Government which appointed him resigns.

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

Answer: d

Explanation:

- In the performance of his official duties, the Attorney General has the right of audience in all courts in the territory of India. Further, as per the Article 88, he has the right to speak and to take part in the proceedings of both the Houses of Parliament or their joint sitting and any committee of the Parliament of which he may be named a member, but without a right to vote. **Solicitor General has no similar right to participate in the parliamentary meetings. So, statement 1 is not correct.**
- Attorney General holds office during the pleasure of the president. This means that he may be removed by the president at any time. **He may also quit his office by submitting his resignation to the president. Conventionally, he resigns when the government (council of ministers) resigns or is replaced,** as he is appointed on its advice. Thus, it is a convention and not mentioned in the Constitution of India. **So, statement 2 is not correct.**

Therefore, option (d) is the correct answer.

Q18. With reference to the writs issued by the Courts in India, consider the following statements:

1. Mandamus will not lie against a private organization unless it is entrusted with a public duty.
2. Mandamus will not lie against a Company even though it may be a Government Company.
3. Any public minded person can be a petitioner to move the Court to obtain the writ of Quo Warranto.

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

Answer: c

Explanation:

- The Supreme Court in *Binny Ltd. and Anr. v. V. Sadasivan and Ors* held that writ of mandamus can be exercised against a private body but there must be a public law element and it cannot be exercised to enforce purely private contract entered into between the parties. The scope of mandamus is determined by the nature of the duty to be enforced, rather than the identity of the authority against whom it is sought. If the private body is discharging a public function and

the denial of any right is in connection with the public duty imposed on such body, the public law remedy can be enforced. **So, statement 1 is correct.**

- Mandamus literally means ‘we command’. It is a command issued by the court to a public official asking him to perform his official duties that he has failed or refused to perform. It can be issued against any **public body, a corporation**, an inferior court, a tribunal or government company for the same purpose. **So statement 2 is not correct.**
- Quo-Warranto writ can be sought by any interested person and not necessarily by the aggrieved person. **So, statement 3 is correct.**

Therefore, option (c) is the correct answer.

Q19. With reference to Ayushman Bharat Digital Mission, consider the following statements:

1. Private and public hospitals must adopt it.
2. As it aims to achieve universal health coverage, every citizen of India should be part of it ultimately.
3. It has seamless portability across the country.

Which of the statements given above is/are correct?

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

Answer: b

Explanation:

- **Participation of a healthcare facility or an institution in Ayushman Bharat Digital Mission (ABDM) is voluntary** and shall be taken by the respective management (government or private management). **So, statement 1 is not correct.**
- Its vision is to create a **national digital health ecosystem that supports universal health coverage** in an efficient, accessible, inclusive, affordable, timely and safe manner, that provides a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems, and ensures the security, confidentiality and privacy of health-related personal information. **But it is not mandatory for all citizens to get a Ayushman Bharat Health Account (ABHA) Number.** Whoever wishes to participate in the Ayushman Bharat Digital Mission and wishes to have their records available digitally may create an ABHA Number. **So, statement 2 is not correct.**
- Ayushman Bharat Digital Mission (ABDM) will have a national footprint and will enable seamless portability across the country through a Health ID – Personal Health Identifier, with

supporting blocks, including adoption of Health Information Standards will play a pivotal role in **national portability. So, statement 3 is correct.**

Therefore, option (b) is the correct answer.

Q20. With reference to Deputy Speaker of Lok Sabha, consider the following statements:

1. As per the Rules of Procedure and Conduct of Business in Lok Sabha, the election of Deputy Speaker shall be held on such date as the Speaker may fix.
2. There is a mandatory provision that the election of a candidate as Deputy Speaker of Lok Sabha shall be from either the principal opposition party or the ruling party.
3. The Deputy Speaker has the same power as of the Speaker when presiding over the sitting of the House and no appeal lies against his rulings.
4. The well-established parliamentary practice regarding the appointment of Deputy Speaker is that the motion is moved by the Speaker and duly seconded by the Prime Minister.

Which of the statements given above are correct?

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

Answer: a

Explanation:

- In Lok Sabha, the election of Deputy Speaker is governed by Rule 8 of The Rules of Procedure and Conduct of Business in Lok Sabha. According to the Rule, the election "**shall be held on such date as the Speaker may fix**", and the Deputy Speaker is elected once a motion proposing his name is passed. **So, statement 1 is correct.**
- Up to the 10th Lok Sabha, both the Speaker and the Deputy Speaker were usually from the ruling party. Since the 11th Lok Sabha, there has been a consensus that the Speaker comes from the ruling party (or ruling alliance) and the post of Deputy Speaker goes to the main opposition party. **So, statement 2 is not correct.**
- Article 95(1) says: "While the office of Speaker is vacant, the duties of the office shall be performed by the Deputy Speaker". **The Deputy Speaker has the same powers as the Speaker** when presiding over a sitting of the House. All references to the Speaker in the Rules are deemed to be references to the Deputy Speaker when he presides. **No appeal lies to the Speaker against a ruling given by the Deputy Speaker** or any person presiding over a sitting of the House in the absence of the Speaker. **So, statement 3 is correct.**
- The well-established parliamentary practice is that a motion is moved by the **Parliamentary Affairs Minister** and duly seconded by **the treasury benches or by the opposition**, which is carried by the House. **So, statement 4 is not correct.**

Therefore, option (a) is the correct answer.

Q21. Among the following crops, which one is the most important anthropogenic source of both methane and nitrous oxide?

- a) Cotton
- b) Rice
- c) Sugarcane
- d) Wheat

Answer: b

Explanation:

- Agriculture is estimated to account for 10%–20% of anthropogenic greenhouse gas (GHG) emissions worldwide. In 2005, it accounted for 50% and 60% of the total anthropogenic methane (CH₄) and nitrous oxide (N₂O) emissions, respectively. **Rice paddies are considered one of the most important sources of methane and nitrous oxide emissions**, which have attracted considerable attention due to their contribution to global warming.

Therefore, option (b) is the correct answer.

Q22. “System of Rice intensification” of cultivation, in which alternate wetting and drying of rice field is practised, results in:

- 1. Reduced seed requirement
- 2. Reduced methane production
- 3. Reduced electricity consumption

Select the correct answer using the code given below:

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

Answer: d

Explanation:

- The System of Rice Intensification involves cultivating rice with as much organic manure as possible, starting with young seedlings planted singly at wider spacing in a square pattern; and with intermittent irrigation that keeps the soil moist but not inundated, and frequent inter cultivation with weeder that actively aerates the soil.
- The System of Rice Intensification (SRI) is an agroecological and climate-smart rice production methodology that allows farmers to:
 - increase yields by 30-50% or more
 - **use 90% less seed. So, point 1 is correct**

- use 30-50% less irrigation water (through AWD and other methods) **by conserving electricity. So, point 3 is correct.**
- use 30-100% less chemical fertiliser and pesticides
- **reduction in methane emission. So, point 2 is correct.**

Therefore, option (d) is the correct answer.

Q23. Which one of the following lakes of West Africa has become dry and turned into desert?

- a) Lake Victoria
- b) Lake Faguibine
- c) Lake Oguta
- d) Lake Volta

Answer: b

Explanation:

- Lake Faguibine in **northern Mali** is dry and has been since the 1970s.
 - The Lake Faguibine System, four interlinked 80 km west of **Timbuktu**, was historically one of lakes most fertile areas. But over seven years, Mali's droughts in the 1970s dried up the lakes.
 - Then sand filled the channels connecting the lakes to the River Niger, with the result that when rain finally returned the water could no longer reach the lakes. The region's prosperity evaporated along with the water.
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Therefore, option (b) is the correct answer.

Q24. Gandikota canyon of South India was created by which one of the following rivers?

- a) Cauvery
- b) Manjira
- c) Pennar

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d) Tungabhadra

Answer: c

Explanation:

- **Gandikota canyon** is in the Kadappa district of **Andhra Pradesh**. The gorge is a stunning maze of jagged rocks layered in shades of red. **The stunning gorge has been created by the waters of the famous river Pennar that streams from the Erramala hills.** The area is now known as the Grand Canyon of India because of its resemblance to the famous US landmark. It's also home to two ancient temples and a 12th Century fort that sits atop the hills surrounding the gorge.

Therefore, option (c) is the correct answer.

Q25. Consider the following pairs:

Sl. No.	Peak	:	Mountains
1.	Namcha Barwa	:	Garhwal Himalaya
2.	Nanda Devi	:	Kumaon Himalaya
3.	Nokrek	:	Sikkim Himalaya

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

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

Answer: b

Explanation:

- **Namcha Barwa** is located near the **easternmost Himalayas** in **Arunachal Pradesh**. It is around the Namcha Barwa that the mighty Brahmaputra River enters India. It is not located in **Garhwal Himalaya**. So, pair 1 is not correctly matched.
- Between the Satluj and the Kali rivers there is the 320 km long **Kumaon Himalayas**. **Nanda Devi** (7,817 m), **Kamet** (7,756 m), **Trisul** (7,140 m), **Badrinath** (7,138 m), **Kedarnath** (6,968 m), **Gangotri** (6,510 m) are important peaks here. So, pair 2 is correctly matched.
- **Nokrek** is the highest peak in the **Garo Hills range in Meghalaya**. It has an elevation of 1412 metres above sea level, from where rise most of the major rivers and streams in the Garo Hills region. So, pair 3 is not correctly matched.

Therefore, option (b) is the correct answer.

Q26. The term “Levant” often heard in the news roughly corresponds to which of the following regions?

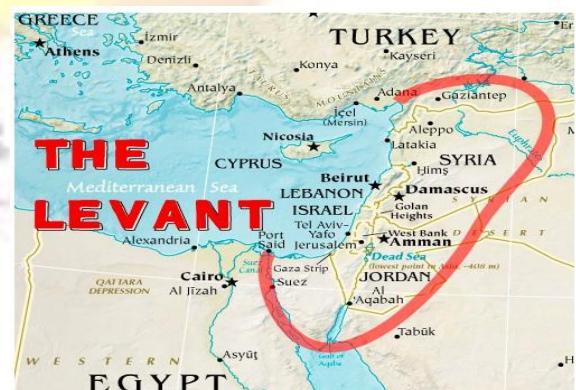
- Region along the eastern Mediterranean shores
- Region along North African shores stretching from Egypt to Morocco
- Region along Persian Gulf and Horn of Africa
- The entire coastal areas of Mediterranean Sea

Answer: a

Explanation:

- **Levant**, (from the French lever, “to rise,” as in sunrise, meaning the east), historically, the region along the **eastern Mediterranean shores**, roughly corresponding to modern-day Israel, Jordan, Lebanon, Syria, and certain adjacent areas.

Therefore, option (a) is the correct answer.



Q27. Consider the following countries:

1. Azerbaijan
2. Kyrgyzstan
3. Tajikistan
4. Turkmenistan
5. Uzbekistan

Which of the above have borders with Afghanistan?

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

Answer: c

Explanation:

- Afghanistan is bounded to the east and south by Pakistan to the west by Iran, and to the north by the Central Asian states of **Turkmenistan, Uzbekistan, and Tajikistan**.

Therefore, option (c) is the correct answer.



Q28. With reference to India, consider the following statements:

1. Monazite is a source of rare earths.
2. Monazite contains thorium.
3. Monazite occurs naturally in the entire Indian coastal sands in India.
4. In India, Government bodies only can process or export monazite.

Which of the statements given above are correct?

a) 1, 2 and 3 only

b) 1, 2 and 4 only

c) 3 and 4 only

d) 1, 2, 3 and 4

Answer: (b)

Explanation:

- **Monazite is one of the beach sand minerals** that contains rare earths like, lanthanum, cerium, praseodymium, neodymium etc. Monazite in general, contains about 55 – 60% total Rare Earth Oxide. **Thorium** is also found in monazite. **So, statement 1 and statement 2 are correct.**

State	Monazite (Million tonne)
Odisha	2.41
Andhra Pradesh	3.72
Tamil Nadu	2.46
Kerala	1.90
West Bengal	1.22
Jharkhand	0.22
Total	11.93

- Atomic Minerals Directorate for Exploration and Research (AMD), a constitute unit of Department of Atomic Energy (DAE) has estimated the presence of 11.93 million tonnes of monazite resources in the beach sand mineral placer deposits along the coastal tracts of India. The state-wise resources of *in situ* monazite is given here. Thus, it is not naturally found in the entire Indian coastal sands. **So, statement 3 is not correct.**
- A licence from the Department of Atomic Energy (DAE) under the Atomic Energy (Working of the Mines. Minerals and Handling of Prescribed Substances) Rules 1984 promulgated under the Atomic Energy Act 1962 is necessary for exporting monazite. DAE has not issued any licence to any private entity either for production of monazite, or for its downstream processing for

extracting thorium, or the export of either monazite or thorium. Only state-run IREL in India has the licence to produce and export monazite. **So, statement 4 is correct.**

Therefore, option (b) is the correct answer.

Q29. In the northern hemisphere, the longest day of the year normally occurs in the:

- a) First half of the month of June
- b) Second half of the month of June
- c) First half of the month of July
- d) Second half of the month of July

Answer: b

Explanation:

- **The longest day of 2021 for those living north of the Equator is June 21.** In technical terms, this day is referred to as the **summer solstice**, the longest day of the summer season. It occurs when the sun is directly over the Tropic of Cancer, or more specifically right over 23.5-degree north latitude. This will happen around 9:02 am on Monday (Indian Standard Time).
- During the solstice, the Earth's axis — around which the planet spins, completing one turn each day — is tilted in a way that the North Pole is tipped towards the sun and the South Pole is away from it.

Therefore, option (b) is the correct answer.

Q30. Consider the following pairs:

Sl. No.	Wetland/Lake	:	Location
1.	Hokera Wetland	:	Punjab
2.	Renuka Wetland	:	Himachal Pradesh
3.	Rudrasagar Lake	:	Tripura
4.	Sasthamkotta Lake	:	Tamil Nadu

How many pairs given above are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) Only three pairs
- d) All four pairs

Answer: b

Explanation:

- **Hokera wetland is located in the Union Territory of Jammu and Kashmir.** It is located at the northwest Himalayan biogeographic province of Kashmir, back of the snow-draped Pir Panchal. **So, pair 1 is not correctly matched.**
- **Renuka Wetland is located in Himachal Pradesh.** It is a natural wetland with freshwater springs and inland subterranean karst formations, fed by a small stream flowing from the lower Himalayan out to the Giri river. **So, pair 2 is correctly matched.**
- **Rudrasagar lake is located in Tripura.** It is a lowland sedimentation reservoir in the northeast hills, fed by three perennial streams discharging to the River Gomti. **So, pair 3 is correctly matched.**
- **Sasthamkotta lake is located in Kerala.** It is the largest freshwater lake in Kerala state in the southwest of the country, spring-fed and the source of drinking water for half a million people in the Kollam district. **So, pair 4 is not correctly matched.**

Therefore, option (b) is the correct answer.

Q31. Consider the following:

1. Aarogya Setu
2. COWIN
3. DigiLocker
4. DIKSHA

Which of the above are built on top of open-source digital platforms?

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

Answer: d

Explanation:

- **Open-source software** is software with source code that anyone can inspect, modify, and enhance. "Source code" is the part of software that most computer users don't ever see; it's the code computer programmers can manipulate to change how a piece of software—a "program" or "application"—works. Programmers who have access to a computer program's source code can improve that program by adding features to it or fixing parts that don't always work correctly. **Arogya Setu, COWIN, Digilocker and DIKSHA** are built on open-source digital platforms.

Therefore, option (d) is the correct answer.

Q32. With reference to Web 3.0, consider the following statements:

1. Web 3.0 technology enables people to control their own data.
2. In Web 3.0 world, there can be blockchain based social networks.
3. Web 3.0 is operated by users collectively rather than a corporation.

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

Answer: d

Explanation:

- **Web 3.0** represents the next iteration or phase of the evolution of the web/internet and potentially could be as disruptive and represent as big a paradigm shift as Web 2.0 did. Web 3.0 is built upon the core concepts of decentralization, openness, and greater user utility. Features of Web3.0 are given below –
- **Decentralization** is a core tenet of Web 3.0. In Web 2.0, computers use HTTP in the form of unique web addresses to find information, which is stored at a fixed location, generally on a single server. With Web 3.0, because information would be found based on its content, it could be stored in multiple locations simultaneously and hence be decentralized. This would break down the massive databases currently held by internet giants like Meta and Google and would **hand greater control to users**. With Web 3.0, the data generated by disparate and increasingly powerful computing resources, including mobile phones, desktops, appliances, vehicles, and sensors, will be sold by users through decentralized data networks, ensuring that users retain ownership control. **So, statements 1 and 3 is correct.**
- In addition to decentralization and being based upon open-source software, Web 3.0 will allow participants to interact directly without going through a trusted intermediary and anyone can participate without authorization from a governing body. As a result, Web 3.0 applications will run on blockchains or **decentralized peer-to-peer networks**. **So, statement 2 is correct.**

Therefore, option (d) is the correct answer.

Q33. With reference to "Software as a Service (SaaS)", consider the following statements:

- 1. SaaS buyers can customise the user interface and can change data fields.
- 2. SaaS users can access their data through their mobile devices.
- 3. Outlook, Hotmail and Yahoo! Mail are forms of SaaS.

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

Answer: d

Explanation:

- **Software as a service (SaaS)** is a software distribution model in which a cloud provider hosts applications and makes them available to end users over the internet. In this model, an independent software vendor (ISV) may contract a third-party cloud provider to host the application.
- In the software-on-demand SaaS model, the provider gives customers network-based access to a single copy of an application that the provider created specifically for SaaS distribution. The application's source code is the same for all customers, and when new features or functionalities are released, they are rolled out to all customers. Depending on the service-level agreement (SLA), the customer's data for each model may be stored locally, in the cloud or both locally and in the cloud. Organizations can integrate SaaS applications with other software using application programming interfaces (APIs). For example, a business can write its own software tools and use the SaaS provider's APIs to integrate those tools with the SaaS offering. **Thus, SaaS buyers can customise the user interface and can change data fields.** This also allows SaaS users to access their data through their **mobile devices**. **So, statement 1 and statement 2 are correct.**
- **Email services** are also an example of SAAS, which are provided by companies like Yahoo, Hotmail and Outlook. **So, statement 3 is correct.**

Therefore, option (d) is the correct answer.

Q34. Which one of the following statements best reflects the idea behind the "Fractional Orbital Bombardment System" often talked about in media?

- a) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space.
- b) A spacecraft lands on another planet after making several orbital motions.
- c) A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.
- d) A spacecraft moves along a comet with the same speed and places a probe on its surface.

Answer: c

Explanation:

- The idea behind **Fractional Orbital Bombardment System (FOBS)** is to put a **warhead into a stable orbit and deorbit it over the target**. If the target and the launch position is lined up and the warhead keeps going round, it will complete a circle. Obviously, with the earth moving during this, it is more of a spiral than a ring, but the horizontal movement is countered in such a way that the warhead still goes over the target. The real point is that missile can be flown directly to the target, or it is fired in the opposite direction the other way around the planet and still arrive at the target from the opposite direction.

Therefore, option (c) is the correct answer.

Q35. Which one of the following is the context in which the term “Qubit” is mentioned?

- a) Cloud Services
- b) Quantum computing
- c) Visible light communication technologies
- d) Wireless Communication Technologies

Answer: b

Explanation:

- A **qubit (or quantum bit)** is the quantum mechanical analogue of a classical **bit**. In classical computing the information is encoded in bits, where each bit can have the value zero or one. In quantum computing the information is encoded in qubits. Qubits can be in a state of 0 or 1 or (unlike a classical bit) in a linear combination of both states. The name of this phenomenon is superposition.

Therefore, option (b) is the correct answer.

Q36. Consider the following communication Technologies:

1. Closed- Circuit Television
2. Radio Frequency Identification
3. Wireless Local area Network

Which of the above are considered short-range devices/technologies?

a) 1 and 2 only

b) 2 and 3 only

c) 1 and 3 only

d) 1, 2 and 3

Answer: d

Explanation:

Short Range Devices (SRD) are radio devices that offer a low risk of interference with other radio services, usually because their transmitted power, and hence their range, is low. The definition 'Short Range Device' may be applied to many different types of wireless equipment, including various forms of:

- Access control (including door and gate openers)
- Alarms and movement detectors
- **Closed-circuit television (CCTV)**
- Cordless audio devices, including wireless microphones
- Industrial control
- **Local Area Networks**
- Medical implants
- Metering devices
- Remote control
- **Radio frequency identification (RFID)**
- Road Transport Telematics
- Telemetry.

Therefore, option (d) is the correct answer.

Q37. Consider the following statements:

1. Biofilms can form on medical implants within human tissues.
2. Biofilms can form on food and food processing surfaces.
3. Biofilms can exhibit antibiotic resistance.

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

Answer: d

Explanation:

- **Biofilms** are a collective of **one or more types of microorganisms** that can grow on many different surfaces. Microorganisms that form biofilms include bacteria, fungi and protists.
- One common example of a **biofilm dental plaque**, a slimy build-up of bacteria that forms on the surfaces of teeth. Pond scum is another example. Biofilms have been found growing on minerals and metals. They have been found underwater, underground and above the ground. They can grow on plant tissues and animal tissues, **on food and food processing surfaces** and **on implanted medical devices** such as **catheters and pacemakers**. **So, statement 1 and statement 2 are correct.**
- For microorganisms, living as a part of a biofilm comes with certain advantages. They are seen to **exhibit antibiotic resistance**. **So, statement 3 is correct.**

Therefore, option (d) is the correct answer.

Q38. Consider the following statements in respect of probiotics:

- 1. Probiotics are made both of bacteria and yeast.
- 2. The organisms in probiotics are found in foods we ingest but they do not naturally occur in our gut.
- 3. Probiotics help in the digestion of milk sugars.

Which of the statements given above is/are correct?

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

Answer: c

Explanation:

- **Probiotics** are live microorganisms that are intended to have health benefits when consumed or applied to the body. They can be found in yogurt and other fermented foods, dietary supplements, and beauty products. Although people often think of bacteria and other microorganisms as harmful “germs,” many are actually helpful. Some bacteria help digest food, destroy disease-causing cells, or produce vitamins.
- Probiotics may contain a variety of microorganisms. The most common are **bacteria** that belong to groups called *Lactobacillus* and *Bifidobacterium*. Other bacteria may also be used as probiotics, and so may **yeasts** such as *Saccharomyces boulardii*. Many of the microorganisms in probiotic products are the same as or similar to microorganisms that **naturally live in our bodies**. **So, statement 1 is correct and statement 2 is not correct.**
- *L. acidophilus* is a probiotic bacterium that naturally occurs in the human gut and other parts of the body. This bacterium helps the digestive system break down sugars, such as **lactose, into lactic acid**. **So, statement 3 is correct.**

Therefore, option (c) is the correct answer.

Q39. In the context of vaccines manufactured to prevent COVID-19 pandemic, consider the following statements:

1. The Serum Institute of India produced COVID-19 vaccine named Covishield using mRNA platform.
2. Sputnik V vaccine is manufactured using vector based platform.
3. COVAXIN is an inactivated pathogen based vaccine.

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

Answer: b

Explanation:

- **Covishield** produced by the Serum Institute of India, is a recombinant, replication-deficient chimpanzee adenovirus vector encoding the SARS-CoV-2 Spike (S) glycoprotein. Following administration, the genetic material of part of corona virus is expressed which stimulates an immune response. **So, statement 1 is not correct.**
- **Sputnik V** vaccine is developed by Moscow's Gamaleya Institute. It is based on **non-replicating human adenovirus vector platform**. **So, statement 2 is correct.**

- COVAXIN is a **whole-virion inactivated** coronavirus vaccine which is also used to manufacture vaccines like Influenza, Rabies and Hepatitis- A. It is manufactured by Bharat Biotech. **So, statement 3 is correct.**
- In mRNA vaccines, the messenger RNAs trigger an immune response in our bodies which in turn produces antibodies and thus protects us from the infection. In India, the CSIR-Centre for Cellular and Molecular Biology researchers are currently testing a mRNA vaccine candidate against Covid-19.

Therefore, option (b) is the correct answer.

Q40. If a major solar storm (solar flare) reaches the Earth, which of the following are the possible effects on the Earth?

1. GPS and navigation systems could fail.
2. Tsunamis could occur at equatorial regions.
3. Power grids could be damaged.
4. Intense auroras could occur over much of the Earth.
5. Forest fires could take place over much of the planet.
6. Orbits of the satellites could be disturbed.
7. Shortwave radio communication of the aircraft flying over polar regions could be interrupted.

Select the correct answer using the code given below:

- a) 1, 2, 4 and 5 only
- b) 2, 3, 5, 6 and 7 only
- c) 1, 3, 4, 6 and 7 only
- d) 1, 2, 3, 4, 5, 6 and 7

Answer: c

Explanation:

- Solar flares are large explosions from the surface of the sun that emit intense bursts of electromagnetic radiation. The intensity of the explosion determines what classification the flare belongs to. The most powerful are X-class flares, followed by M-, C- and B-class; A-class flares are the smallest. Solar flares occur when magnetic energy builds up in the solar

- atmosphere and is released suddenly. These outbursts are intrinsically linked to the solar cycle — an approximately 11-year cycle of solar activity driven by the sun's magnetic field.
- Different types of flares, particularly X-class flares, affect Earth, satellites and even astronauts. They can lead to **failing of GPS and navigation systems and could damage power grids on earth**. They could also result in **intense auroras** over much of the Earth. High intensity solar flares also could **disturb space activities**. Due to their occurrence, **orbits of the satellites could be disturbed and shortwave radio communication of the aircraft flying over polar regions could be interrupted**. So, points 1, 3, 4, 6 and 7 are correct.
 - It should also be noted that the solar wind directed towards the Earth becomes weaker with deeper penetration towards the topographic surface. So, Solar flares may not result in Tsunami and Forest fires. So, points 2 and 5 are not correct.

Therefore, option (c) is the correct answer.

Q41. "Climate Action Tracker" which monitors the emission reduction Pledges of different countries is a:

- a) Database created by coalition of research organisations
- b) Wing of 'International Panel of Climate Change'
- c) Committee under "United Nations Framework Convention on Climate Change"
- d) Agency promoted and financed by United Nations Environment Programme and World Bank

Answer: a

Explanation:

- The Climate Action Tracker is **an independent scientific analysis** that tracks government climate action and measures it against the globally agreed Paris Agreement aim of "holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C." A collaboration of two organisations, **Climate Analytics and New Climate Institute**, the CAT has been providing this independent analysis to policymakers since 2009.

Therefore, option (a) is the correct answer.

Q42. Consider the following statements:

1. "The Climate Group" is an international non-profit organization that drives climate action by building large networks and runs them.

2. The International Energy Agency in partnership with the Climate Group launched a global initiative “EP100”.
3. EP100 brings together leading companies committed to driving innovation in energy efficiency and increasing competitiveness while delivering on emission reduction goals.
4. Some Indian companies are members of EP100.
5. The International Energy Agency is the Secretariat to the “Under2 Coalition”.

Which of the statements given above are correct?

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

Answer: b

Explanation:

- **The Climate Group is an international non-profit** founded in 2003. Its goal is for a world of **net zero carbon emissions by 2050**, with greater prosperity for all. **It builds and runs networks.** It joins up organisations to unlock the power of collective action that shares the same ambitions and creates influence. **So, statement 1 is correct.**
- **EP100 is a global initiative** led by the international non-profit **Climate Group**. It is not launched by the International Energy Agency. **So, statement 2 is not correct.**
- **EP100 brings together over 120 energy smart businesses committed to measuring and reporting on energy efficiency improvements.** Taking energy efficiency from the boiler room to the boardroom, members are reducing emissions whilst improving competitiveness and inspiring others to follow their lead. **So, statement 3 is correct.**
- Many Indian companies like **Mahindra & Mahindra Ltd; Godrej Industries Ltd; JSW Cement Ltd; and, UltraTech Cement Limited** are members of EP100. **So, statement 4 is correct.**
- **The Under2 Coalition** brings together over 270 governments representing 1.75 billion people and 50% of the global economy. Its members commit to keep global temperature rise well below 2°C with efforts to reach 1.5°C. **Climate Group is the secretariat to the Under2 Coalition.** **So, statement 5 is not correct.**

Therefore, option (b) is the correct answer.

Q43. "If rainforests and tropical forests are the lungs of the Earth, then surely wetlands function as its kidneys." Which one of the following functions of wetlands best reflects the above statement?

- The water cycle in wetlands involves surface runoff, subsoil percolation and evaporation.
- Algae form the nutrient base upon which fish, crustaceans, molluscs, birds, reptiles and mammals thrive.
- Wetlands play a vital role in maintaining sedimentation balance and Soil stabilization.
- Aquatic plants absorb heavy metals and excess nutrients.

Answer: d

Explanation:

- According to The Ramsar Convention, "wetlands are areas of marsh, fen, peatland or water, whether 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."
- Wetlands are vital for humans, for other ecosystems and for our climate, providing essential ecosystem services such as water regulation, including flood control and water purification. **Wetlands also absorb carbon dioxide so help slow global heating and reduce pollution, hence have often been referred to as the "Kidneys of the Earth".**

Therefore, option (d) is the correct answer.

Q44. In the context of WHO Air Quality Guidelines, consider the following statements:

- The 24-hour mean of PM_{2.5} should not exceed 15 µg/m³ and annual mean of PM_{2.5} should not exceed 5 µg/m³.
- In a year, the highest levels of ozone pollution occur during the periods of inclement weather.
- PM₁₀ can penetrate the lung barrier and enter the bloodstream.
- Excessive ozone in the air can trigger asthma.

Which of the statements given above are correct?

- 1, 3 and 4
- 1 and 4 only

c) 2, 3 and 4

a) 1 and 2 only

Answer: b

Explanation:

- According to WHO Air Quality Guidelines, the **annual average concentrations of PM2.5 should not exceed 5 $\mu\text{g}/\text{m}^3$, while 24-hour average exposures should not exceed 15 $\mu\text{g}/\text{m}^3$ more than 3 - 4 days per year.** **So, statement 1 is correct.**
- Some pollution, such as ground-level ozone, is made more efficiently in **sunny, hot weather.** The reactions that create harmful ozone in our atmosphere require sunlight. In the summers and especially during extreme heat waves, ozone often reaches dangerous levels in cities or nearby rural areas. Humidity can help to decrease ozone pollution. Afternoon thunderstorm clouds block sunlight, causing ozone production to slow down for the day, while moisture from the storm destroys the ozone that has formed. **So, statement 2 is not correct.**
- Studies have shown that PM with a diameter of 10 μm (PM10) **can enter the lungs but not the bloodstreams.** PM particles with a diameter of 2.5 μm or less (PM2.5) can further reach the distal lung segments, including the alveoli, pass into the bloodstream, and are capable of penetrating blood-organ barriers affecting multiple organ systems, such as the brain, heart, liver and kidney. **So, statement 3 is not correct.**
- **Ozone pollution** is the result of hydrocarbons and nitrogen oxide emissions from motor vehicles or other sources, mixed in the presence of sunlight. It causes increased wheezing, coughing, and chest tightness, especially among susceptible children who play outdoors in polluted environments. **Excessive ozone can trigger asthma because it is very irritating to the lungs and airways.** **So, statement 4 is correct.**

Therefore, option (b) is the correct answer.

Q45. With reference to “Gucchi” sometimes mentioned in the news, consider the following statements:

1. It is a fungus.
2. It grows in some Himalayan forest areas.
3. It is commercially cultivated in the Himalayan foothills of north-eastern India.

Which of the statements given above is/are correct?

a) 1 only

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

Answer: c

Explanation:

- Grown in the foothills of the Himalayas, Gucchi mushrooms are the costliest among **fungi** in the world. **So, statement 1 is correct.**
- They grow in **conifer forests** across temperate regions, and the **cool foothills of the Himalayas, in Himachal, Uttarakhand and Jammu & Kashmir** are ideal territory for them. They grow best during the rains, but it can take months before enough can be collected, dried and brought to the market. They are not commercially cultivated in the Himalayan foothills of north-eastern India. **So, statement 2 is correct and statement 3 is not correct.**

Therefore, option (c) is the correct answer.

Q46. With reference to polyethylene terephthalate, the use of which is so widespread in our daily lives, consider the following statements:

1. Its fibres can be blended with wool and cotton fibres to reinforce their properties.
2. Containers made of it can be used to store any alcoholic beverage.
3. Bottles made of it can be recycled into other products.
4. Articles made of it can be easily disposed of by incineration without causing greenhouse gas emissions.

Which of the statements given above are correct?

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

Answer: a

Explanation:

- **Polyethylene terephthalate (PET)** is the predominant polyester used for fibre production. They are often used in durable-press blends with other fibres such as **rayon, wool, and cotton**, reinforcing the inherent properties of those fibres while contributing to the ability of the fabric to recover from wrinkling. **So, statement 1 is correct.**
- Particularly for highly concentrated spirits in small PET bottles and high storage temperatures the water permeation is unfavourable. In fact, the **leaching effects of plastic and plastic chemical substances** (such as ethylene glycol) have the tendency to leach considerably into alcohol stored if the temperature goes up during storage. **So, statement 2 is not correct.**
- PET bottles can be recycled back into **bottles, fibres, film, thermoformed packaging and strapping**. **So, statement 3 is correct.**
- The burning of plastics releases toxic gases like **dioxins, furans, mercury and polychlorinated biphenyls (better known as BCPs)** into the atmosphere, and poses a threat to vegetation, and human and animal health. **So, statement 4 is not correct.**

Therefore, option (a) is the correct answer.

Q47. Which of the following is **not** a bird?

- Golden Mahseer
- Indian Nightjar
- Spoonbill
- White Ibis

Answer: a

Explanation:

- **Golden Mahseer is a species of cyprinid fish.** Mahseer roughly translates as mahi – fish and sher – tiger, and hence is also referred as tiger among fish. It is a large cyprinid and known to be the toughest among the fresh water sport fish.

Therefore, option (a) is the correct answer.

Q48. Which of the following are nitrogen-fixing plants?

- Alfalfa
- Amaranth
- Chickpea

4. Clover
5. Purslane (Kulfa)
6. Spinach

Select the correct answer using the code given below:

- a) 1, 3 and 4 only
- b) 1, 3, 5 and 6 only
- c) 2, 4, 5 and 6 only
- d) 1, 2, 4, 5 and 6

Answer: a

Explanation:

- **Symbiotic nitrogen fixation by alfalfa** provides substantial amounts of nitrogen (N) to livestock operations, subsequent crops, and soil organic matter. **So, point 1 is correct.**
- **Chickpeas** form root nodules that support biological N fixation (BNF) and host symbiotic N-fixing bacteria. **So, point 3 is correct**
- **Nitrogen is "fixed" in clovers** through a symbiotic relationship with Rhizobium bacteria that infects the plant's roots. The plant provides energy for the bacteria, and bacteria provide the "machinery" necessary to convert atmospheric nitrogen into a form available to plants. **So, point 4 is correct.**
- Amaranth, Purslane (Kulfa), Spinach are not are nitrogen-fixing plants. **So, points 2, 5 and 6 are not correct.**

Therefore, option (a) is the correct answer.

Q49. "Biorock technology" is talked about in which one of the following situations?

- a) Restoration of damaged coral reefs
- b) Development of building materials using plant residues
- c) Identification of areas for exploration/extraction of shale gas
- d) Providing salt licks for wild animals in forests/protected areas

Answer: a

Explanation:

- **Biorock technology** is an innovative process originally invented in 1976 to produce natural building materials in the sea. It is a unique method that **allows coral reefs, and other marine ecosystems including seagrass, salt marsh, mangrove, and oyster reefs to survive and recover from damage** caused by excessive nutrients, climate change, and physical destruction. It greatly increases the settlement, growth, survival, and resistance to stresses, including high temperature and pollution, of all marine organisms.

Therefore, option (a) is the correct answer.

Q50. The “Miyawaki method” is well known for the:

- Promotion of commercial farming in arid and semi-arid areas
- Development of gardens using genetically modified flora
- Creation of mini forests in urban areas
- Harvesting wind energy on coastal areas and on sea surfaces

Answer: c

Explanation:

- **The Miyawaki forestation** method is a unique way to **create an urban forest** and is pioneered by Japanese botanist Akira Miyawaki who in the 1970s, began to plant young native plant species — trees, shrubs, and grasses — in tight groves to restore degraded lands. Saplings planted close together grow rapidly as they compete for light. By planting a native tree assortment, replicating the vegetation layers found in a mature forest, Miyawaki was engineering (and fast-forwarding) the stages of ecological succession by which a degraded plot turns naturally into a forest.

Therefore, option (c) is the correct answer.

Q51. In the Government of India Act 1919, the functions of Provincial Government were divided into "Reserved" and "Transferred" subjects. Which of the following were treated as "Reserved" subjects?

1. Administration of Justice
2. Local Self-Government
3. Land Revenue

4. Police

Select the correct answer using the code given below:

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

Answer: c

Explanation:

- At the provincial level, the **Government of India Act 1919 introduced Dyarchy**. Under it, the Governor-in-Council was in charge of the 'Reserved subjects' while the ministers were in charge of 'transferred subjects'. **Reserved subjects** contained finance, **land revenue, justice, police**, prison, famine relief, irrigation, press, public service. **Transferred subjects** included **local self-government**, education, public health, agriculture, excise, public works and cooperative societies.

Therefore, option (c) is the correct answer.

Q52. In medieval India, the term "Fanam" referred to:

- a) Clothing
- b) Coins
- c) Ornaments
- d) Weapons

Answer: b

Explanation:

- **Fanam was a gold currency** used only in Southern India in 17th – 19th c. The word Fanam is Europeanized version of the word Panam which means coin.
- Fanam come primarily in gold and it was one of the smallest coins in the world: 0.35-0.4 gm (full) or 0.15-0.2 gm (half) range. It was extensively used for trading.
- States which issued gold fanams include Maratha, Mysore, Cochin, Coorg or Kurg, Travancore, Negapatnam (for circulation in Ceylon), Tuticorin, and the Mughal Empire. Even Madras

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Presidency issued fanams till 1815. In Danish India, fano was issued while in French India it was called fanon.

Therefore, option (b) is the correct answer.

Q53. Consider the following freedom fighters:

1. Barindra Kumar Ghosh
2. Jogesh Chandra Chatterjee
3. Rash Behari Bose

Who of the above was/were actively associated with the Ghadar Party?

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

Answer: d

Explanation:

- **Barindra Kumar Ghosh** was jailed after Swadeshi years and was in jail during the first world war, so he didn't participate in Ghadar.
- **Jogesh Chandra Chatterjee** was a part of Anushilan samiti and then became one of the founding members of HRA/HSRA.
- It was only **Rash Behari Bose** who was active during Ghadar years. When Ghadar members started to come to India, the local revolutionary leader was Rash Behari Bose who assisted them in the plan to trigger rebellion in the army which ultimately failed.

Therefore, option (d) is the correct answer.

Q54. With reference to the proposals of Cripps Mission, consider the following statements:

1. The Constituent Assembly would have members nominated by the Provincial Assemblies as well as the Princely States.

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2. Any Province, which is not prepared to accept the new Constitution would have the right to sign a separate agreement with Britain regarding its future status.

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

Answer: b

Explanation:

- In March 1942, a mission headed by Stafford Cripps was sent to India with constitutional proposals to seek Indian support for the war.
- It proposed that the **Constituent Assembly was to be composed of elected (and not nominated) members from provinces**. Only the section representing the Princely states was to be nominated. **So, statement 1 is not correct.**
- It also stated that if any Province which is not prepared to accept the new Constitution would have the **right to sign a separate agreement with Britain regarding its future status**. This became the primary reason for the failure of the Cripps mission as this provision allowed for balkanization of India. **So, statement 2 is correct.**

Therefore, option (b) is the correct answer.

Q55. With reference to Indian history, consider the following texts:

- 1. Nettipakarana
- 2. Parishishtaparvan
- 3. Avadanashataka
- 4. Trishashtilakshana Mahapurana

Which of the above are Jaina texts?

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

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c) 1, 3 and 4

d) 2, 3 and 4

Answer: b

Explanation

1. Nettipakarana	It is a Buddhist scripture , sometimes included in the Khuddaka Nikaya of Sutta Pitaka. So, point 1 is not correct.
2. Parishishtaparvan	It is a 12 th century Sanskrit mahakavya by Acharya Hemachandra. He was a contemporary of the Chaulukyan king Kumarapala. The text gives details of early Jaina teachers . So, point 2 is correct.
3. Avadanashataka	It is a collection of 100 Buddhist legends . (avadana: type of Buddhist literature telling deeds/events of the past and subsequent lives of Buddha e.g. Mahavastu, Avadanashataka and Divyavadana). So, point 3 is not correct.
4. Trishashtilakshana Mahapurana	It is an important Jain text composed by Acharya Jinesena . He was in the court of Amoghavarsha, a famous Rashtrakuta king. Famous for quotation about the nature of God as non-creator in Jainism. So, point 4 is correct.

Therefore, option (b) is the correct answer.

Q56. With reference to Indian history, consider the following pairs:

Sl. No.	Historical person	Known as
1.	Aryadeva	: Jaina scholar
2.	Dignaga	: Buddhist scholar
3.	Nathamuni	: Vaishnava scholar

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How many pairs given above are correctly matched?

- a) None of the pairs
- b) Only one pair
- c) Only two pairs
- d) All three pairs

Answer: c

Explanation:

Aryadeva	Disciple of Nagarjuna and an important Buddhist monk of Mahayana tradition in the 3 rd century. He belonged the Madhyamaka sub-school of Mahayana Buddhism. So, pair 1 is not correctly matched.
Dignaga	Important 5 th century Buddhist scholar . He was a student of Vasubandhu. (Vasubandhu and Asanga were important Buddhist monk who founded Yogachara sub-school of Mahayana Buddhism). He is known for significant role in development of Logic. His major work is Pramana Samuchchaya. So, pair 2 is correctly matched.
Nathamuni	9 th -10 th century Vaishnava scholar , compiler of Nalayira Divya Prabandham. (4000 Tamil verses by 12 Alvar saints). Also considered as the first Sri Vaishnava Acharya. So, pair 3 is correctly matched.

Therefore, option (c) is the correct answer.

Q57. With reference to Indian history, consider the following statements:

- 1. The first Mongol Invasion of India happened during the reign of Jalal-ud-din Khalji.
- 2. During the reign of Ala-ud-din Khalji, one Mongol assault marched up to Delhi and besieged the city.
- 3. Muhammad-bin-Tughlaq temporarily lost portions of north-west of his kingdom to Mongols.

Which of the statements given above is/are correct?

- a) 1 and 2
- b) 2 only

c) 1 and 3

d) 3 only

Answer: b

Explanation:

- **Jalaluddin Khalji** ruled from 1290 to 1296. First Mongol invasion happened when Mongols were pursuing **Jalaluddin Mangbarani of Khwarezm** who had ran to India in 1221. **So, Statement 1 is not correct.**
- During the reign of **Alauddin Khilji**, Mongols invaded India and put a siege around Delhi in **1303. So, Statement 2 is correct**
- After about 1307 the Mongol threat suddenly receded; and only on one occasion subsequently does it appear to have attained to the same proportions. **Early in the reign of Muhammad Tughluq, the Chaghatai Khan Tarmashirin** led an incursion in which the Mongol forces once again advanced to the Jumna but retired without actually entering the capital when he was paid a ransom. Thereafter, Hindustan was free of major inroads from this quarter for another sixty years or more, until the sack of Delhi by Timur in 1398. **So, Statement 3 is not correct.**

Therefore, option (b) is the correct answer.

Q58. With reference to Indian history, who of the following were known as "Kulah-Daran"?

a) Arab merchants

b) Qalandars

c) Persian calligraphists

d) Sayyids

Answer: d

Explanation

- **The Sayyids**, who belonged to the theological class during the Delhi Sultanate era, were called as Kulah-Daran (cap-wearers). It was the distinctive pointed cap which gave them unique identity among the larger section of theologians who were generally referred to as **Dastar-bandan (turban-wearers)** which was their official head-dress.

Therefore, option (d) is the correct answer.

Q59. With reference to Indian history, consider the following statements:

1. The Dutch established their factories/warehouses on the east coast on lands granted to them by Gajapati rulers.
2. Afonso de Albuquerque captured Goa from the Bijapur Sultanate.
3. The English East India Company established a factory at Madras on a plot of land leased from a representative of the Vijayanagara empire.

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

Answer: b

- **Gajapati rulers in Odisha** lasted from **1434 to 1541**. Dutch factories established on the eastern coast are: Masulipattanam (1605), Pulicat (1610), Bimilipatam/Bhimunipatnam (1641), Chinsura (1653). **So, statement 1 is not correct.**
- **Afonso de Albuquerque** captured Goa for Portuguese in 1510 from **Adil Shahi rulers of Bijapur**. **So, statement 2 is correct.**
- In 1639, the English East India Company (EIC) received permission from local Raja **Darmala Venkatadri Nayaka to establish a factory at Madras**. Fort Saint George built in 1640. Madras was the first piece of land leased by the EIC, and significantly without any war but through friendship and negotiation. Raja Darmala Venkatadri was a representative of the Vijayanagara Empire. **So, statement 3 is correct.**

Therefore, option (b) is the correct answer.

Q60. According to Kautilya's Arthashastra, which of the following are correct?

1. A person could be a slave as a result of a judicial punishment.
2. If a female slave bore her master a son, she was legally free.
3. If a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son.

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

Answer: d

Explanation:

- The Arthashastra is an Indian treatise on politics, economics, military strategy, the function of the state, and social organization attributed to Kautilya (also known as Chanakya). He was instrumental in establishing the reign of the great king Chandragupta Maurya (321-297 BCE).
- According to Arthashastra, there were various ways through which a person could become a slave as per Kautilya's Arthashastra. One of which was **judicial punishment**. So, **Statement 1 is correct.**
- Arthashastra was quite strict when it came to rights of slaves and especially female slaves. **If a female slave bore her master a son, she was legally free.** Also, **if a son born to a female slave was fathered by her master, the son was entitled to the legal status of the master's son.** So, **statement 2 and statement 3 are correct.**

Therefore, option (d) is the correct answer.

Q61. Consider the following statements:

1. Tight monetary policy of US Federal Reserve could lead to capital flight.
2. Capital flight may increase the interest cost of firms with existing External Commercial Borrowings (ECBs).
3. Devaluation of domestic currency decreases the currency risk associated with ECBs.

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

Answer: a

Explanation:

- **Tight monetary policy is a course of action undertaken by a central bank to slow down overheated economic growth.** It aims to constrict spending in an economy that is seen to be accelerating too quickly or to curb inflation when it is rising too fast. When the US Federal Reserve adopts a tight monetary policy, **India may see foreign capital flowing out.** This is due to higher interest rates offered in the US which could attract investors. **So, statement 1 is correct.**
- Capital flight destabilizes interest rates and exchange rates and also reduces monetary control. **It drives up the marginal costs of foreign borrowing.** Thus, capital flight may **increase the interest cost of firms with existing external commercial borrowings.** So, statement 2 is correct.
- **The devaluation of currency increases the cost of borrowing of the firms that denominate debt in foreign currency** and thus adversely affect the investment and net worth of the firms. Thus, devaluation of domestic currency increases the currency risk associated with External commercial borrowings. **So, statement 3 is not correct.**

Therefore, option (a) is the correct answer.

Q62. Consider the following States:

1. Andhra Pradesh
2. Kerala
3. Himachal Pradesh
4. Tripura

How many of the above are generally known as tea-producing States?

- a) Only one State
- b) Only two States
- c) Only three States
- d) All four States

Answer: c

Explanation:

- **Kerala, Himachal Pradesh and Tripura** are generally known as tea-producing states.
- The **Anamallais** are wedged between Tamil Nadu and Kerala and just across the hills from the High Ranges. With over 12,000 hectares under tea, it occupies an important place in the planting map of South India. Wayanad-Nilgiris range in Kerala and Tamil Nadu and Munnar region of Kerala are also well known for their tea production. **So, point 2 is correct.**
- In **Himachal Pradesh**, tea is grown in the **Mandi and Kangra distncts** over an area of 2,063 hectares. Kangra, known as "the valley of gods," is famous for its distinct flavoured tea. Below the towering and exquisitely beautiful snow-clad Dhauladhar Mountain, tea has been grown on the gentle slopes of the outer Himalayas since 1949. **So, point 3 is correct.**
- **Tripura along with Assam** is also one of the leading tea producers in India. **So, point 4 is correct.**
- **Andhra Pradesh is known for its coffee production** and is not generally known as a tea-producing state. **So, point 1 is not correct.**

Therefore, option (c) is the correct answer.

Q63. Consider the following statements:

1. In India, credit rating agencies are regulated by Reserve Bank of India.
2. The rating agency popularly known as ICRA is a public limited company.
3. Brickwork Ratings is an Indian credit rating agency.

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

Answer: b

Explanation:

- A **credit rating agency** is an entity which assesses the ability and willingness of the issuer company for timely payment of interest and principal on a debt instrument. Credit rating agencies are regulated by the **Securities and Exchange Board of India (SEBI)**. **So, statement 1 is not correct.**
- **ICRA Limited (formerly Investment Information and Credit Rating Agency of India Limited)** was set up in 1991 by leading financial/investment institutions, commercial banks and financial

services companies as an independent and professional investment Information and Credit Rating Agency. ICRA is a **Public Limited Company**, with its shares listed on the Bombay Stock Exchange and the National Stock Exchange. **So, statement 2 is correct.**

- **Brickwork Ratings (BWR)** is an Indian Credit Rating Agency that offers rating services on Bank Loans, NCD, Commercial Paper, Fixed deposits, Securitised paper, Security receipts etc. Brickwork Ratings founded by bankers, credit rating professionals, former regulators as well as professors, is committed to promoting Financial Literacy. BWR has its corporate office in Bengaluru. **So, statement 3 is correct.**

Therefore, option (b) is the correct answer.

Q64. With reference to the ‘Banks Board Bureau (BBB), which of the following statements are correct?

1. The Governor of RBI is the Chairman of BBB.
2. BBB recommends for the selection of heads for Public Sector Banks.
3. BBB helps the Public Sector Banks in developing strategies and capital raising plans.

Select the correct answer using the code given below:

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

Answer: b

Explanation:

- **The Governor of RBI is not the Chairman of the Bank Board Bureau (BBB).** The Appointments Committee of the Cabinet in its discretion appoints the Chairman and members of the BBB. **So, statement 1 is not correct.**
- The BBB advises the Government on matters relating to appointments, confirmation or extension of tenure and termination of services of the **Board of Directors in Public Sector Banks (PSBs) and financial institutions (FIs).** It is responsible for the selection and appointment of Board of Directors of PSBs and FIs. **So, statement 2 is correct.**
- One of the functions of the BBB is to help Public Sector Banks in terms of **developing business strategies and capital raising plan etc.** **So, statement 3 is correct.**

Therefore, option (b) is the correct answer.

Q65. With reference to Convertible Bonds, consider the following statements:

1. As there is an option to exchange the bond for equity, Convertible Bonds pay a lower rate of interest.
2. The option to convert to equity affords the bondholder a degree of indexation to rising consumer prices.

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

Answer: c

Explanation:

- A convertible bond gives the **holder the option to convert or exchange it for a predetermined number of shares in the issuing company**. When issued, they act just like regular corporate bonds, albeit with a slightly lower interest rate. Because convertibles can be changed into stock and, thus, benefit from a rise in the price of the underlying stock, **companies offer lower yields on convertibles. So, statement 1 is correct.**
- One of the advantages of convertible bonds is that the **option to convert to equity affords the bondholder a degree of indexation to rising consumer prices. So, statement 2 is correct.**

Therefore, option (c) is the correct answer.

Q66. Consider the following:

1. Asian Infrastructure Investment Bank
2. Missile Technology Control Regime
3. Shanghai Cooperation Organisation

India is a member of which of the above?

- a) 1 and 2 only

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

Answer: d

Explanation:

- **The Asian Infrastructure Investment Bank (AIIB)** is a multilateral development bank whose mission is financing the Infrastructure for Tomorrow—infrastructure with sustainability at its core. It began operations in Beijing in January 2016 and have since grown to 105 approved members worldwide. **India is founding member of the AIIB. So, point 1 is correct.**
- **India in 2018 became an official member of the weapons regulatory body – Missile Technology Control Regime (MTCR)** – that enables it to become a global arms exporter while granting it access to sensitive technology. The aim of the MTCR is to restrict the proliferation of missiles, complete rocket systems, unmanned air vehicles, and related technology for those systems capable of carrying a 500 kg payload at least 300 km, as well as systems intended for the delivery of weapons of mass destruction (WMD). **So, point 2 is correct.**
- **The Shanghai Cooperation Organization (SCO)** is an intergovernmental organization founded in Shanghai on 15 June 2001. The SCO currently comprises eight Member States (China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan). **India became permanent member of the SCO in 2017. So, point 3 is correct.**

Therefore, option (d) is the correct answer.

Q67. Consider the following statements:

1. Vietnam has been one of the fastest growing economies in the world in the recent years.
2. Vietnam is led by a multi-party-political system.
3. Vietnam's economic growth is linked to its integration with global supply chains and focus on exports.
4. For a long time, Vietnam's low labour costs and stable exchange rates have attracted global manufacturers.
5. Vietnam has the most productive e-service sector in the Indo-Pacific region.

Which of the statements given above are correct?

- a) 2 and 4

b) 3 and 5

c) 1, 3 and 4

d) 1 and 2

Answer: c

Explanation:

- **Vietnam is one of Southeast Asia's fastest growing economies** and is expected to be a **global top 20 economy by 2050**. Between 2002 and 2021, Vietnam's GDP per capita increased 3.6 times, reaching almost US\$3,700. Vietnam was one of only a few countries to post GDP growth in 2020 when the pandemic hit. **So, statement 1 is correct.**
- **There is no multi-party system in Vietnam.** The Socialist Republic of Vietnam is an **authoritarian regime headed by the Communist Party of Vietnam (CPV)**. While the ideological orthodoxy of Communism has become less important, the country is still influenced strongly by the CPV. The separation of powers between executive, legislative and judiciary is weak. The overlap between the CPV and the government is far-reaching. **So, statement 2 is not correct.**
- **Vietnam's remarkable growth has been propelled by its openness to trade and investment.** Its comparative advantage in **low-cost labour** has enabled Vietnam to emerge as a key manufacturing node in global supply chains. The exports from Vietnam have also shown huge growth. Vietnam's total exports expanded 25.2 % year-over-year in Apr 2022. **Vietnam stable exchange** kept around a 3 percent trading band by the central bank has been a key ingredient of the country's foreign direct investment driven export sector. **So, statements 3 and 4 are correct.**
- **Vietnam does not have the most productive e-service sector in the Indo-Pacific region.** Countries like USA, South Korea and Japan have highly advanced and productive e-service sectors. **So, statement 5 is not correct.**

Therefore, option (c) is the correct answer.

Q68. In India, which one of the following is responsible for maintaining price stability by controlling inflation?

- a) Department of Consumer Affairs
- b) Expenditure Management Commission
- c) Financial Stability and Development Council
- d) Reserve Bank of India

Answer: d

Explanation:

- In India, the Reserve Bank of India (RBI) is vested with the responsibility of conducting monetary policy. This responsibility is explicitly mandated under the Reserve Bank of India Act, 1934. The primary objective of monetary policy is to maintain price stability while keeping in mind the objective of growth. Price stability is a necessary precondition to sustainable growth. In May 2016, the Reserve Bank of India (RBI) Act, 1934 was amended to provide a statutory basis for the implementation of the flexible inflation targeting framework. The amended RBI Act also provides for the inflation target to be set by the Government of India, in consultation with the Reserve Bank, once in every five years.

Therefore, option (d) is the correct answer.

Q69. With reference to Non-Fungible Tokens (NFTs), consider the following statements:

1. They enable the digital representation of physical assets.
2. They are unique cryptographic tokens that exist on a blockchain.
3. They can be traded or exchanged at equivalency and therefore can be used as a medium of commercial transactions.

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

Answer: a

Explanation:

- Non-Fungible Tokens (NFT) enable digital representation of physical assets. An NFT is a digital asset that represents real-world objects like art, music, in-game items and videos. So, statement 1 is correct.

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- They are bought and sold online, frequently with cryptocurrency, and they are **generally encoded with the same underlying software as many cryptos**. They are generally built using the same kind of programming as cryptocurrency, like Bitcoin. **NFTs exist on a blockchain**, which is a distributed public ledger that records transactions. **So, statement 2 is correct.**
- Physical money and cryptocurrencies are “fungible,” meaning they can be traded or exchanged for one another. They’re also equal in value—one dollar is always worth another dollar; one Bitcoin is always equal to another Bitcoin. Crypto’s fungibility makes it a trusted means of conducting transactions on the blockchain. NFTs are different. **Each has a digital signature that makes it impossible for NFTs to be exchanged for or equal to one another (hence, non-fungible).** **So, statement 3 is not correct.**

Therefore, option (a) is the correct answer.

Q70. Consider the following pairs:

Sl. No.	Reservoirs	States
1.	Ghataprabha	: Telangana
2.	Gandhi Sagar	: Madhya Pradesh
3.	Indira Sagar	: Andhra Pradesh
4.	Maithon	: Chhattisgarh

How many pairs given above are **not** correctly matched?

- a) Only one pair
- b) Only two pairs
- c) Only three pairs
- d) All four pairs

Answer: c

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Explanation:

- **Ghataprabha reservoir** is located across Ghataprabha river near Ghataprabha village in Gokak taluk of Belgaum district of **Karnataka**. The Ghataprabha reservoir serves the purpose of irrigation and drinking water requirements in the region. **So, pair 1 is not correctly matched.**
- **Gandhi Sagar reservoir** is located in **Madhya Pradesh**. It is one of the five water reservoirs of national importance. Gandhi Sagar Dam was constructed in 1960 to provide drinking water to several districts of Rajasthan and generate 115 megawatts of electricity. **So, pair 2 is correctly matched.**
- **Indira Sagar Dam** is a multipurpose dam project at **Madhya Pradesh in Central India**. It was built on Narmada River which flows from Central India to Western India. It is a multipurpose River Valley Project for development of water resources of Narmada. **So, pair 3 is not correctly matched.**
- **Maithon** is located on the banks of river **Barakar**. The Maithon Dam is located about 48 kms from the Coal City of Dhanbad in **Jharkhand**. The dam with an underground power station is one of its kinds in the whole of South East Asia. **So, pair 4 is not correctly matched.**

Therefore, option (c) is the correct answer.

Q71. In India, which one of the following compiles information on industrial disputes, closures, entrenchments and lay-offs in factories employing workers?

- a) Central Statistics Office
- b) Department for Promotion of Industry and Internal Trade
- c) Labour Bureau
- d) National Technical Manpower Information System

Answer: c

Explanation:

- **Labour Bureau** has been engaged in collection, compilation and analysis and dissemination of labour statistics at All India and State level on different facets of labour since its inception in the year 1920.
- The various editions on Statistics of “**Industrial Disputes, Closures, Retrenchments and Lay-offs in India during 2006**” is compiled based on the voluntary returns received every month from the Labour Departments of the States and the Regional Labour Commissioner (Central).

Therefore, option (c) is the correct answer.

Q72. In India, what is the role of the Coal Controller's Organization (CCO)?

1. CCO is the major source of Coal Statistics in Government of India.
2. It monitors progress of development of Captive Coal/Lignite blocks.
3. It hears any objection to the Government's notification relating to acquisition of coal-bearing areas.
4. It ensures that coal mining companies deliver the coal to end users in the prescribed time.

Select the correct answer using the code given below:

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

Answer: a

Explanation:

- **Under Collection of Statistics Act, 2008** - Coal Controller's Organization (CCO) has been made the statistical authority with respect to coal and lignite statistics. Entrusted the responsibility of carrying out Annual Coal & Lignite survey and publishing of Provisional Coal Statistics and Coal Directory of India. It also monitors progress of development of Captive Coal/Lignite blocks. So, statement 1 and statement 2 are correct.
- **Under Coal Bearing Area (Acquisition and Development) Act, 1957**- CCO is the competent authority under this act to hear any objection to the Central Government's Notification relating to acquisition of coal bearing land and to furnish his reports to Central Govt. So, statement 3 is correct.
- CCO is not mandated to ensure that coal mining companies deliver the coal to end users in the prescribed time. So, statement 4 is not correct.

Therefore, option (a) is the correct answer.

Q73. If a particular area is brought under the Fifth Schedule of the Constitution of India, which one of the following statements best reflects the consequence of it?

- a) This would prevent the transfer of land of tribal people to non-tribal people.
- b) This would create a local self-governing body in that area.

- c) This would convert that area into a Union Territory.
- d) The State having such areas would be declared a Special Category State.

Answer: a

Explanation:

- **The Fifth Schedule of the Constitution** deals with the administration and control of Scheduled Areas as well as of Scheduled Tribes residing in any State other than the States of **Assam, Meghalaya, Tripura and Mizoram**.
- If a particular area is brought under the Fifth Schedule, **it means that all land in Scheduled Area is presumed to have been Adivasi land; hence, not only should no land now pass into the hands of non-Adivasis**, but any land presently owned by non-tribal should, if being transferred, come back to the hands of Scheduled Tribes.

Therefore, option (a) is the correct answer.

Q74. Consider the following statements:

1. The India Sanitation Coalition is a platform to promote sustainable sanitation and is funded by the Government of India and the World Health Organization.
2. The National Institute of Urban Affairs is an apex body of the Ministry of Housing and Urban Affairs in Government of India and provides innovative solutions to address the challenges of Urban India.

Which of the statements given above is/are correct?

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

Answer: b

Explanation:

- India Sanitation Coalition (ISC), launched in June 2015, **at Federation of Indian Chamber Commerce and Industry (FICCI)**, enables and supports safe and sustainable sanitation by bringing multiple organizations on a common platform through a range of catalytic actions. These include supporting the unlocking of WASH financing with focus on the private sector, forging partnerships with allied organizations for leading the discourse on sustainable

sanitation; convening, curating and disseminating best practices in the sanitation advocacy — space and providing inputs into the policy aspects of sanitation through participation at allied forums. **So, statement 1 is not correct.**

- Established in 1976, **the National Institute of Urban Affairs (NIUA)**, is a premier Institute of the **Ministry of Housing and Urban Affairs**, Government of India for research and capacity building for the urban sector in India. It provides innovative solutions to address the challenges of Urban India. **So, statement 2 is correct.**

Therefore, option (b) is the correct answer.

Q75. Which one of the following has been constituted under the Environment (Protection) Act, 1986?

- a) Central Water Commission
- b) Central Ground Water Board
- c) Central Ground Water Authority
- d) National Water Development Agency

Answer: c

Explanation:

- Central Ground Water Authority has been constituted under Section 3 (3) of the **Environment (Protection) Act, 1986** to regulate and control development and management of ground water resources in the country. It issues necessary regulatory directions for the purpose. It exercises powers under the Act for the appointment of officers.

Therefore, option (c) is the correct answer.

Q76. With reference to the “United Nations Credentials Committee”, consider the following statements:

1. It is a committee set up by the UN Security Council and works under its supervision.
2. It traditionally meets in March, June and September every year.
3. It assesses the credentials of all UN members before submitting a report to the General Assembly for approval.

Which of the statements given above is/are correct?

- a) 3 only

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

Answer: a

Explanation:

- **A United Nations Credentials Committee** is appointed at the beginning of each regular session of the General Assembly. It consists of nine members, who are appointed by the General Assembly on the proposal of the President.
- The Credentials Committee functions under the **auspices of the UN General Assembly**. So, **statement 1 is not correct**.
- A Credentials Committee is appointed at the beginning of each regular session of the General Assembly. **Usually, the committee meets in November**, brings the report to the General Assembly in December for adoption. So, **the statement 2 is not correct**.
- The Committee is mandated to examine the **credentials of representatives of Member States and to report to the General Assembly** thereon (Rule 28 of the Rules of Procedure of the General Assembly). **So, statement 3 is correct**.

Therefore, option (a) is the correct answer.

Q77. Which one of the following statements best describes the ‘Polar Code’?

- a) It is the international code of safety for ships operating in polar waters.
- b) It is the agreement of the countries around the North Pole regarding the demarcation of their territories in the polar region.
- c) It is a set of norms to be followed by the countries whose scientists undertake research studies in the North Pole and South Pole.
- d) It is a trade and security agreement of the member countries of the Arctic Council.

Answer: a

Explanation:

- **International Maritime Organization's International Code for Ships Operating in Polar Waters (Polar Code)** is mandatory under both the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL). The Polar Code covers the full range of design, construction, equipment, operational, training,

search and rescue and environmental protection **matters relevant to ships operating in the inhospitable waters surrounding the two poles.**

Therefore, option (a) is the correct answer.

Q78. With reference to the United Nations General Assembly, consider the following statements:

1. The UN General Assembly can grant observer status to the non-member States.
2. Inter-governmental organisations can seek observer status in the UN General Assembly.
3. Permanent Observers in the UN General Assembly can maintain missions at the UN headquarters.

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

Answer: d

Explanation:

- The United Nations General Assembly may grant **non-member states, international organizations** and other entities **Observer Status**. Inter-governmental organisations can seek observer status in the UN General Assembly. So, **statement 1 and 2 is correct.**
- Observer status would be confined to States and intergovernmental organizations whose activities cover matters of interest to the Assembly.
- Permanent Observers may participate in the sessions and workings of the General Assembly and **maintain missions at the UN Headquarters**. So, **statement 3 is correct.**

Therefore, option (d) is the correct answer.

Q79. With reference to the “Tea Board” in India, consider the following statements:

1. The Tea Board is a statutory body.
2. It is a regulatory body attached to the Ministry of Agriculture and Farmers Welfare.
3. The Tea Board’s Head Office is situated in Bengaluru.
4. The Board has overseas offices at Dubai and Moscow.

Which of the statements given above are correct?

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

Answer: d

Explanation:

- The Tea Board is a statutory body set up under section 4 of the **Tea Act, 1953** was constituted on 1st April 1954. **So, statement 1 is correct.**
- The present Tea Board is functioning as a statutory body of the Central Government under the **Ministry of Commerce**. **So, statement 2 is not correct.**
- **The head office of the Tea board is in Kolkata.** Currently, the Tea Board has two overseas offices located at **Dubai and Moscow**. Its functions include rendering financial and technical assistance for cultivation, manufacture and marketing of tea, export promotion, aiding Research and Development activities for augmentation of tea production and improvement of tea quality. **So, statement 3 is not correct and statement 4 is correct.**

Therefore, option (d) is the correct answer.

Q80. Which one of the following best describes the term “greenwashing”?

- a) Conveying a false impression that a company’s products are eco-friendly and environmentally sound
- b) Non-inclusion of ecological/environmental costs in the Annual Financial Statements of a country
- c) Ignoring the disastrous ecological consequences while undertaking infrastructure development
- d) Making mandatory provisions for environmental costs in a government project/programme

Answer: a

Explanation:

- **Greenwashing** is the process of conveying a false impression or providing misleading information about how a company's products are **more environmentally sound**. Greenwashing is considered an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly.

Therefore, option (a) is the correct answer.

Q81. Consider the following statements:

1. High clouds primarily reflect solar radiation and cool the surface of the Earth.
2. Low clouds have a high absorption of infrared radiation emanating from the Earth's surface and thus cause warming effect.

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

Answer: d

Explanation:

- **Clouds high up in the atmosphere tend to warm Earth more than they cool.** High, thin clouds trap some of the Sun's heat. This warms Earth's surface. **So, statement 1 is not correct.**
- **Low clouds within a mile or so of Earth's surface tend to cool more than they warm.** These low, thicker clouds mostly reflect the Sun's heat. This cools Earth's surface. **So, statement 2 is not correct.**

Therefore, option (d) is the correct answer.

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Q82. Consider the following statements:

1. Bidibidi is a large refugee settlement in north-western Kenya.
2. Some people who fled from South Sudan civil war live in Bidibidi.
3. Some people who fled from civil war in Somalia live in Dadaab refugee complex in Kenya.

Which of the statements given above is/are correct?

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

Answer: c

Explanation:

- **The Bidibidi Refugee Settlement** is located in the West Nile Area of **Uganda**, and is home to over 270,000 **South Sudanese refugees** — the second largest refugee settlement in the world. **So, statement 1 is not correct and statement 2 is correct.**
- **The Dadaab refugee complex** has a population of over 2 lakh registered refugees and asylum seekers. Dadaab refugee complex consists of three camps. The first camp was established in 1991, when refugees fleeing the civil war in Somalia started to cross the border into **Kenya**. **So, statement 3 is correct.**

Therefore, option (c) is the correct answer.

Q83. Consider the following countries:

1. Armenia
2. Azerbaijan
3. Croatia
4. Romania
5. Uzbekistan

Which of the above are members of the Organization of Turkic States?

a) 1, 2 and 4

b) 1 and 3

c) 2 and 5

d) 3, 4 and 5

Answer: c

Explanation:

- **Organization of Turkic States (then called the Cooperation Council of Turkic Speaking States - Turkic Council)** was established in 2009 as an intergovernmental organization, with the overarching aim of promoting comprehensive cooperation among Turkic States.
- Its four founding member states are **Azerbaijan, Kazakhstan, Kyrgyzstan and Turkey**. During the 7th Summit held in Baku in October 2019, Uzbekistan joined as a full member. **Hungary received observer status** at the Organization during its 6th Summit in Cholpon-Ata, **Kyrgyz Republic** in September 2018. And in lately in the 8th Summit held in November 2021, **Turkmenistan** joined as an **Observer Member** to the Organization. So, points 2 and 5 are correct.
- Armenia, Croatia and Romania are not its members. So, point 1, 3 and 4 are not correct.

Therefore, option (c) is the correct answer.

Q84. Consider the following statements:

1. Gujarat has the largest solar park in India.
2. Kerala has a fully solar powered International Airport.
3. Goa has the largest floating solar photovoltaic project in India.

Which of the statements given above is/are correct?

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

Answer: b

Explanation:

- India's Bhadla Solar Park is the largest solar power park in the world. Bhadla Solar Park is located in Bhadla, a dry and sandy region in **Rajasthan**, and spans 14,000 acres. **So, statement 1 is not correct.**
- **Cochin International Airport, India's first airport built under a public-private-partnership (PPP) model**, has scripted another chapter in aviation history by becoming the first airport in the world that operates completely on solar power. **So, statement 2 is correct.**
- NTPC's floating solar installation spans over 75 acres of the Simhadri reservoir's area in **Andhra Pradesh**. It will generate enough electricity to power 7,000 homes using more than a lakh solar PV module. **So, statement 3 is not correct.**

Therefore, option (b) is the correct answer.

Q85. With reference to the United Nations Convention on the Law of Sea, consider the following statements:

1. A coastal state has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baseline determined in accordance with the convention.
2. Ships of all states, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.
3. The Exclusive Economic Zone shall not extend beyond 200 nautical miles from the baseline from which the breadth of the territorial sea in measure.

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

Answer: d

Explanation:

- **The United Nations Convention on the Law of the Sea** was adopted in 1982. It lays down a comprehensive regime of law and order in the world's oceans and seas establishing rules governing all uses of the oceans and their resources.
- According to it, every State has the right to establish the breadth of its territorial sea up to a limit not **exceeding 12 nautical miles**, measured from baselines determined in accordance with this Convention. **So, statement 1 is correct.**
- Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the **right of innocent passage** through the territorial sea. **So, statement 2 is correct.**

- It states that the **exclusive economic zone** shall not extend **beyond 200 nautical miles** from the baselines from which the breadth of the territorial sea is measured. **So, statement 3 is correct.**

Therefore, option (d) is the correct answer.

Q86. Which one of the following statements best reflects the issue with Senkaku Islands, sometimes mentioned in the news?

- It is generally believed that they are artificial islands made by a country around South China Sea.
- China and Japan engage in maritime disputes over these islands in East China Sea.
- A permanent American military base has been set up there to help Taiwan to increase its defence capabilities.
- Though International Court of Justice declared them as no man's land, some South-East Asian countries claim them.

Answer: b

Explanation:

- The Senkaku/Diaoyu islands** were formally claimed by Japan in 1895 and have been privately owned by a series of Japanese citizens for most of the past 120 years.
- China began to reassert claims over the Senkaku/Diaoyu islands** in the 1970s, citing historic rights to the area.
- Tensions between China and Japan over the contested Senkaku/Diaoyu islands continue to increase as both countries improve their military capabilities, particularly their radar and missile systems, in the region.

Therefore, option (b) is the correct answer.

Q87. Consider the following pairs:

Sl. No.	Country	Important reason for being in the news recently
1.	Chad	: Setting up of permanent military base by China
2.	Guinea	: Suspension of Constitution and Government by military
3.	Lebanon	: Severe and prolonged economic depression
4.	Tunisia	: Suspension of Parliament by President

How many pairs given above are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) Only three pairs
- d) All four pairs

Answer: c

Explanation:

- **Chad:** In 2020, President Idris Deby Itno was killed and in April 2021 during fighting against rebels in northern Chad, he was succeeded by his son, Mahamat Idriss Deby Itno, as the head of a military junta. It was not in the news for setting up of permanent military base by China. **So, pair 1 is not correctly matched.**
- **Guinea:** Some US officials are reported to have warned that **Beijing plans to establish a permanent military installation in Guinea**. Recently, Guinea's military leaders have **suspended the constitution** and closed the country's borders. **So, pair 2 is correctly matched.**
- **Lebanon:** Lebanon is enduring a **severe and prolonged economic depression**. According to the latest World Bank Lebanon Economic Monitor (LEM), the economic and financial crisis is likely to rank in the top 10, possibly top 3, most severe crises episodes globally since the mid-nineteenth century. **So, pair 3 is correctly matched.**

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- **Tunisia:** Recently, Tunisia's President Kais Saied has **dissolved the country's parliament**. So, **pair 4 is correctly matched.**

Therefore, option (c) is the correct answer.

Q88. Consider the following pairs:

Sl. No.	Region often mentioned in the news	Country
1.	Anatolia	: Turkey
2.	Amhara	: Ethiopia
3.	Cabo Delgado	: Spain
4.	Catalonia	: Italy

How many pairs given above are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) Only three pairs
- d) All four pairs

Answer: b

Explanation:

- **Anatolia:** Recently, Turkish police detained several people over links to President Recep Tayyip Erdogan's archfoe, US-based cleric Fethullah Gulen. In the latest crackdown, police carried out simultaneous raids in several cities including Istanbul as well as Konya and Kayseri in central Anatolia. **So, pair 1 is correctly matched.**
- **Amhara:** Recently, once a key ally of **Ethiopia's** federal government in its deadly war in the country's northern Tigray region, the neighboring Amhara region is now experiencing government-led mass arrests and disappearances of activists, journalists and other perceived critics. **So, pair 2 is correctly matched.**

- **Cabo Delgado:** Recently, at least 24 countries have sent soldiers to support **Mozambique** in its fight against insurgents in northern Cabo Delgado province. **So, pair 3 is not correctly matched.**
- **Catalonia:** Catalonia is an autonomous region of **Spain**, designated as a nationality by its Statute of Autonomy. Since 2010, there has been an increasing support for Catalan Independence. **So, pair 4 is not correctly matched.**

Therefore, option (b) is the correct answer.

Q89. With reference to Indian laws about wildlife protection, consider the following statements:

1. Wild animals are the sole property of the government.
2. When a wild animal is declared protected, such animal is entitled for equal protection whether it is found in protected areas or outside.
3. Apprehension of a protected wild animal becoming a danger to human life is sufficient ground for its capture or killing.

Which of the statements given above is/are correct?

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

Answer: a

Explanation:

- According to the Wildlife Protection Act, 1972, wild animals are the property of the Government (State or Central). In 2012, in a significant verdict, the Bombay High Court ruled that wild animals including tigers should be treated as government property for all purposes and any damage caused by them should be compensated by the Government. **So, statement 1 is correct.**
- The Wildlife (Protection) Act, 1972, does not discriminate between animals found in protected areas and outside. It provides for equal protection for wild animals irrespective of where they are found. **So, statement 2 is correct.**

- Just the apprehension of a protected wild animal becoming a danger to human life is not a sufficient ground for its capture or killing. Only if the wild animal becomes a danger to human life or is diseased or disabled beyond recovery can it be allowed to be captured or killed by the competent authority i.e., the Chief Wildlife Warden of the State. **So, statement 3 is not correct.**
Therefore, option (a) is the correct answer.

Q90. Certain species of which one of the following organisms are well known as cultivators of fungi?

- a) Ant
- b) Cockroach
- c) Crab
- d) Spider

Answer: a

Explanation:

- The attine ants are a group of more than 200 species that use **several different agricultural techniques to cultivate mutualistic fungi which they raise in fungus gardens**. Unlike the fungi cultivated by lower attines, those grown by the leaf-cutters have lost the ability to grow freely and depend entirely on the ants for their propagation. These fungi also produce nutritious swellings which the ants use as food, similar to the fruits and vegetables we cultivate. In a word, they've been domesticated by the ants.

Therefore, option (a) is the correct answer.

Q91. Consider the following pairs:

Sl. No.	Site of Ashoka's major rock edicts	Location in the State of
1.	Dhauli	: Odisha
2.	Erragudi	: Andhra Pradesh
3.	Jaugada	: Madhya Pradesh
4.	Kalsi	: Karnataka

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How many pairs given above are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) Only three pairs
- d) All four pairs

Answer: b

Explanation:

- **Dhauli** is located in the ancient territory of **Kalinga, now the state of Odisha**, which the emperor Ashoka Maurya (reigned 272-231 BC) conquered with appalling loss of life in about 260 BC. Thereafter Ashoka repented of the violence which he had done, and converted to Buddhism. He expressed his remorse, and his intention to govern the kingdom according to the principles of his new faith, in a series of rock-cut edicts. **So, pair 1 is correctly matched.**
- Ashoka rock edict site near **Erragudi** on Gooty-Pathikonda road is in **Kurnool district, Andhra Pradesh**. **So, pair 2 is correctly matched.**
- **Jaugada** is an ancient fort that served as a Mauryan fortified capital of the Kalinga province. Jaugada is located near the cities of Berhampur and Purushottampur in Ganjam district of **Odisha**. Along with Dhauli, this place is also known for Kalinga edicts in Odisha. **So, pair 3 is not correctly matched.**
- Rock edicts of **Kalsi** erected by King Asoka and located about 43 km from Dehradun in **Uttarakhand**. **So, pair 4 is not correctly matched.**

Therefore, option (b) is the correct answer.

Q92. Consider the following pairs:

Sl. No.	King	Dynasty
1.	Nannuka	: Chandela
2.	Jayashakti	: Paramara
3.	Nagabhata II	: Gurajara-Pratihara
4.	Bhoja	: Rashtrakuta

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How many pairs given above are correctly matched?

- a) Only one pair
- b) Only two pairs
- c) Only three pairs
- d) All four pairs

Answer: b

Explanation:

- **Nannuka** (831-845 CE) was the founder of **Chandela** dynasty, who ruled in the Jejakabhukti region (Present day Madhya Pradesh). **So, pair 1 is correctly matched.**
- **Jayashakti** was a 9th century ruler from the **Chandela** dynasty of Central India. **So, pair 2 is not correctly matched.**
- **Nagabhata** (795-833 CE) was an Emperor from **Gurjara-Pratihara** dynasty, after ascending throne of his father Vatsraja. **So, pair 3 is correctly matched.**
- **Bhoja** (1010-1055 CE) popularly known as **Raja Bhoj Parmar** was a king from the **Paramara** dynasty. **So, pair 4 is not correctly matched.**

Therefore, option (b) is the correct answer.

Q93. Which one of the following statements about Sangam literature in ancient South India is correct?

- a) Sangam poems are devoid of any reference to material culture.
- b) The social classification of Varna was known to Sangam poets.
- c) Sangam poems have no reference to warrior ethic.
- d) Sangam literature refers to magical forces as irrational.

Answer: b

Explanation:

- The corpus of poems known as Sangam literature was produced over six centuries, from around 300 BC to 300 AD, by Tamils from very diverse social backgrounds. It was compiled in anthologies several centuries later. **It gives information about material culture during those times as well as describes important warriors.** These works provide insight into early Tamil culture and into trade relations between South India and the Mediterranean, West Asia and

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Southeast Asia. **The social classification of Varna was known to Sangam poets.** In the Purattinai of Tolkappiyam, we find a Sutra (74) that uses the term Vahai (type) denoting four Varnas.

Therefore, option (b) is the correct answer.

Q94. "Yogavasistha" was translated into Persian by Nizamuddin Panipati during the reign of:

- a) Akbar
- b) Humayun
- c) Shahjahan
- d) Aurangzeb

Answer: a

Explanation:

- **Yogavasistha also known as Maha-Ramayana** is a historically popular and influential syncretic philosophical text of Hinduism. Nizamuddin Panipati, who was Akbar's Mir Bakshi, translated it into persian during **Akbar's reign**.

Therefore, option (a) is the correct answer.

Q95. The world's second tallest statue in sitting pose of Ramanuja was inaugurated by the Prime Minister of India at Hyderabad recently. Which one of the following statements correctly represents the teachings of Ramanuja?

- a) The best means of salvation was devotion.
- b) Vedas are eternal, self-existent and wholly authoritative.
- c) Logical arguments were essential means for the highest bliss.
- d) Salvation was to be obtained through meditation.

Answer: a

Explanation:

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- Philosopher and social reformer, Saint Ramanujacharya born in 1017 in Sriperumbudur in Tamil Nadu, travelled across India, advocating equality and social justice.
- **He advocated universal salvation through devotion to God, compassion, humility, equality, and mutual respect, which is known as Sri Vaishnavam Sampradaya.**
- Ramanuja revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought. He is considered to be the inspiration for poets like Annamacharya, Bhakt Ramdas, Thyagaraja, Kabir, and Meerabai.

Therefore, option (a) is the correct answer.

Q96. The Prime Minister recently inaugurated the new Circuit House near Somnath Temple at Veraval. Which of the following statements are correct regarding Somnath Temple?

1. Somnath Temple is one of the Jyotirlinga shrines.
2. A description of Somnath Temple was given by Al-Biruni.
3. Pran Pratishtha of Somnath Temple (installation of the present day temple) was done by President S. Radhakrishnan.

Select the correct answer using the code given below:

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

Answer: a

Explanation:

- **Shree Somnath is first among the twelve Aadi Jyotirlings of India.** It has a strategic location on the western coast of India. Somnath temple is believed to be first among the 12 Jyotirlinga shrines of Lord Shiva. **So, statement 1 is correct.**
- **Al Biruni**, an 11th century Arab traveller described the temple and mentioned about its plunder and destruction. **So, statement 2 is correct.**
- The Pran-Pratistha at the existing temple was done on 11th May 1951 by then President of India, Dr. Rajendra Prasad. **So, statement 3 is not incorrect.**

Therefore, option (a) is the correct answer.

Q97. Which one of the following statements best describes the role of B cells and T cells in the human body?

- a) They protect the body from environmental allergens.
- b) They alleviate the body's pain and inflammation.
- c) They act as immunosuppressants in the body.
- d) They protect the body from the diseases caused by pathogens.

Answer: d

Explanation:

- T cells protect us from infection. In our daily lives, we're constantly exposed to **pathogens, such as bacteria, viruses and fungi**. Without T lymphocytes, also called T cells, every exposure could be life-threatening. T cells can wipe out infected or cancerous cells. They also direct the immune response by helping B lymphocytes to eliminate invading pathogens.
- B cells create antibodies. B lymphocytes, also called B cells, create a type of protein called an **antibody**. These antibodies bind to **pathogens or to foreign substances**, such as toxins, to neutralize them. For example, an antibody can bind to a virus, which prevents it from entering a normal cell and causing infection. B cells can also recruit other cells to help destroy an infected cell.

Therefore, option (d) is the correct answer.

Q98. Consider the following statements:

1. Other than those made by humans, nanoparticles do not exist in nature.
2. Nanoparticles of some metallic oxides are used in manufacture of some cosmetics
3. Nanoparticles of some commercial products which enter environment are unsafe for humans.

Which of the statements given above is/are correct?

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

d) 2 and 3

Answer: d

Explanation:

- Nanoparticles are incredibly tiny particles of a given substance. Nanoparticles are less than 100 nanometers thick. To give some perspective, a nanometer is 1000 times smaller than the thickness of one strand of hair.
- Nanoparticles **can be naturally created**, for example, minuscule droplets of sea spray. However, most nanoparticles are created in the lab. For sunscreen, the nanoparticles in question are **zinc oxide and titanium dioxide**. These ingredients are broken down into ultra-fine particles before being added to your sunscreen. **So, statement 1 is not correct and statement 2 is correct.**
- Inhaled particulate matter can be deposited throughout the human respiratory tract, and an important fraction of inhaled nanoparticles deposit in the lungs. Nanoparticles can potentially move from the lungs to other organs such as the brain, the liver, the spleen and possibly the foetus in pregnant women. **So, statement 3 is correct.**

Therefore, option (d) is the correct answer.

Q99. Consider the following statements:

DNA Barcoding can be a tool to:

1. assess the age of a plant or animal.
2. distinguish among species that look alike.
3. identify undesirable animal or plant materials in processed foods.

Which of the statements given above is/are correct?

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

Answer: d

Explanation:

- **DNA barcoding** is a system for species identification focused on the use of a short, standardized genetic region acting as a “barcode” in a similar way that Universal Product Codes (UPCs) are used by supermarket scanners to distinguish commercial products. DNA barcoding has got **no association with determining the age of an organism**. So, statement 1 is not correct.
- DNA barcoding is a system for fast and accurate **species identification** that makes ecological system more accessible by using short DNA sequence instead of whole genome and is used for eukaryotes. So, statement 2 is correct.
- In recent times, DNA barcoding has emerged as the most potent tool for **detection of adulteration of food with unwanted plant and animal material**. So, statement 3 is correct.

Therefore, option (d) is the correct answer.

Q100. Consider the following:

1. Carbon monoxide
2. Nitrogen oxide
3. Ozone
4. Sulphur dioxide

Excess of which of the above in the environment is/are cause(s) of acid rain?

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

Answer: b

Explanation:

- Acid rain refers to the ways in which acid from the atmosphere is deposited on the earth's surface. Oxides of nitrogen and sulphur which are acidic in nature can be blown by wind along with solid particles in the atmosphere and finally settle down either on the ground as dry deposition or in water, fog and snow as wet deposition.
- Burning of fossil fuels (which contain sulphur and nitrogenous matter) such as coal and oil in power stations and furnaces or petrol and diesel in motor engines produce **sulphur dioxide and nitrogen oxides**. SO₂ and NO₂ after oxidation and reaction with water are major contributors to acid rain, because polluted air usually contains particulate matter that catalyse the oxidation.

Therefore, option (b) is the correct answer.

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