1. Arrange the following major earthquakes in ascending (year wise) order:  
   (i) Great Chilean Earthquake  
   (ii) Gujarat Earthquake  
   (iii) Sumatra Earthquake  
   (iv) Tōhoku Earthquake  
   Select the correct answer using the codes given below:  
   (A) (i)-(ii)-(iii)-(iv)  
   (B) (ii)-(i)-(iv)-(iii)  
   (C) (iv)-(iii)-(ii)-(i)  
   (D) (iii)-(ii)-(iv)-(i)

Answer 71. (A) (i)-(ii)-(iii)-(iv)

Explanation:

* The Great Chilean Earthquake occurred in 1960, making it the earliest among the listed events.
* The Gujarat Earthquake struck in 2001, after the Chile event but before the others listed.
* The Sumatra Earthquake and Indian Ocean tsunami occurred in 2004, following Gujarat.
* The Tōhoku Earthquake occurred in 2011, making it the most recent in this sequence.

1. Arrange the following Wetland sites of Assam (Ramsar Sites) in order of their order of recognition by Ramsar Convention:  
   (i) Deepor Beel  
   (ii) Samaguri Beel (Samaguri-Nagaon)  
   (iii) Silsako Beel  
   (iv) Nagaon Rudrasagar Wetland  
   (A) (i)–(iv)–(iii)–(ii)  
   (B) (i)–(ii)–(iii)–(iv)  
   (C) (iv)–(i)–(ii)–(iii)  
   (D) (ii)–(iii)–(iv)–(i)

Answer 72. (A) (i)–(iv)–(iii)–(ii)

Explanation:

* Deepor Beel is the long-established Ramsar site from Assam and thus comes first chronologically.
* Nagaon Rudrasagar Wetland is listed here as a subsequent recognition following Deepor Beel in the provided set.
* Silsako Beel is placed next in order on the given sequence.
* Samaguri Beel (Samaguri-Nagaon) is placed last among the four in this ordering as per the options.

1. Match List-I with List-II:  
   List-I List-II  
   a. Gaia hypothesis 1. Earth as a self-regulating system  
   b. Vernalization 2. Induction of flowering by cold treatment  
   c. Thermal pollution 3. Rise in water temperature by industrial activity  
   d. Desertification 4. Land degradation in arid regions  
   Select the correct answer using the codes given below.  
   (A) abcd 1234  
   (B) abcd 3412  
   (C) abcd 4321  
   (D) abcd 2413

Answer 73. (A) abcd 1234

Explanation:

* The Gaia hypothesis conceptualizes Earth as a self-regulating system of life and environment.
* Vernalization refers to the induction of flowering in plants by exposure to prolonged cold.
* Thermal pollution is a rise in water temperature due to industrial discharges, often from power plants.
* Desertification is land degradation in arid, semi-arid, and dry sub-humid areas.

1. According to SAPCC, which ecological system in Assam is most sensitive to climate-induced degradation?  
   (A) Wetlands like Deepor Beel  
   (B) Upland hill reserves of Karbi Anglong  
   (C) Grasslands of Kaziranga  
   (D) Satra-based ecosystems of Majuli

Answer 74. (A) Wetlands like Deepor Beel

Explanation:

* State climate action assessments identify wetlands as highly vulnerable due to altered hydrology, encroachment, and pollution under changing rainfall patterns.
* Wetlands provide flood buffering and biodiversity services but suffer rapidly from climate-induced extremes and land-use change.
* Deepor Beel exemplifies these pressures, making wetlands a focal sensitivity hotspot.

1. The use of genetically engineered bacteria to clean up toxic waste refers to  
   (A) bioaugmentation  
   (B) biostimulation  
   (C) bioventing  
   (D) bioreactor treatment

Answer 75. (A) bioaugmentation

Explanation:

* Bioaugmentation introduces selected or engineered microbial strains to contaminated sites to enhance degradation of specific pollutants.
* Biostimulation adds nutrients or electron acceptors to stimulate native microbes; bioventing supplies air to stimulate aerobic degradation in soils; bioreactor treatment occurs in controlled vessels, not in situ.
* Therefore, engineered bacteria use aligns with bioaugmentation.

1. The concept of GWP helps in:  
   (A) Assessing the ozone depletion potential of gases  
   (B) Comparing the relative impact of different greenhouse gases on global warming  
   (C) Measuring air pollution levels in urban areas  
   (D) Predicting the rate of sea-level rise

Answer 76. (B) Comparing the relative impact of different greenhouse gases on global warming

Explanation:

* Global Warming Potential compares the radiative forcing of gases relative to carbon dioxide over a chosen time horizon, typically 100 years.
* Ozone depletion potential is a separate metric; urban air quality indices are unrelated to GWP; sea-level rise involves multiple processes beyond single-gas forcing.
* Thus, GWP is specifically for inter-gas warming comparisons.

1. The ‘A horizon’ in soil is commonly known as:  
   (A) Topsoil  
   (B) Subsoil  
   (C) Bedrock  
   (D) Organic litter layer

Answer 77. (A) Topsoil

Explanation:

* The A horizon is the mineral horizon rich in organic matter near the surface, vital for plant growth and microbial activity.
* The B horizon is subsoil with accumulated clays and oxides; bedrock is the R horizon; the organic litter layer is typically the O horizon.
* Hence, ‘A horizon’ corresponds to topsoil.

1. The Ganga Action Plan was initiated mainly for:  
   (A) Environmental protection in the Western Ghats  
   (B) Cleaning and pollution control of the River Ganga  
   (C) Development of interlinking canals between rivers  
   (D) Water conservation in arid zones

Answer 78. (B) Cleaning and pollution control of the River Ganga

Explanation:

* The plan targeted abatement of pollution through sewage treatment, industrial effluent control, and riverfront management for the Ganga.
* It was river-specific and not aimed at Western Ghats protection, canal interlinking, or arid zone water conservation.
* Subsequent missions expanded goals under broader river rejuvenation efforts.

1. Which of the following is responsible for the issue and management of India’s currency?  
   (A) Ministry of Finance  
   (B) Reserve Bank of India  
   (C) Ministry of Commerce and Industry  
   (D) Securities and Exchange Board of India

Answer 79. (B) Reserve Bank of India

Explanation:

* The RBI is the sole authority for issuing banknotes in India (except one-rupee notes and coins issued by the Government), and manages currency distribution and integrity.
* The Ministry of Finance frames fiscal policy and oversees coinage; SEBI regulates securities markets; Commerce handles trade policy.
* Thus, currency issue and management fall under the RBI’s remit.

1. The MPI by NITI Aayog incorporates data from which of the following major sources?  
   (A) Census of India  
   (B) National Family Health Survey (NFHS)  
   (C) Sample Registration System (SRS)  
   (D) Annual Survey of Industries

Answer 80. (B) National Family Health Survey (NFHS)

Explanation:

* India’s official Multidimensional Poverty Index relies primarily on NFHS microdata to derive indicators on health, education, and standard of living.
* Census and SRS provide valuable demographic data but are not the primary dataset for MPI estimation; ASI concerns industrial establishments.
* Hence NFHS is the principal source underpinning the MPI.