UPSC CDS 1 2021 General Knowledge Previous Year Paper : 11th Nov

Q1. Which one of the following statements is not correct?
(a) Real GDP is calculated by valuing outputs of different years at common prices.
(b) Potential GDP is the real GDP that the economy would produce if its resources were fully employed.
(c) Nominal GDP is calculated by valuing outputs of different years at constant prices.
(d) Real GDP per capita is the ratio of real GDP divided by population.

Q2. The mismatch in the regional or occupational pattern of job vacancies and the pattern of worker availability results in
(a) Structural unemployment
(b) Disguised unemployment
(c) Altered unemployment
(d) Cyclical unemployment

Q3. The situation in an economy which is growing slowly along with rapid inflation (rising price level) is called
(a) Stagnation (b) Deflation
(c) Stagflation (d) Recession

Q4. The increase in private investment spending induced by the increase in Government spending is known as
(a) Crowding in (b) Deficit financing
(c) Crowding out (d) Pumping out

Q5. The asset or assets that a borrower pledges in order to guarantee repayment of a loan is called as
(a) Cheque (b) Collateral
(c) Guarantee card (d) Bond

Q6. The percentage by which the money the borrower pays back exceeds the money that was borrowed is called as
(a) Bank rate (b) Nominal interest rate
(c) Real interest rate (d) Terms of credit

Q7. Which one of the following statements about the Gandhi-Irwin Pact of 1931 is correct?
(a) The Government would not release those prisoners who had been non-violent.
(b) The Government would not release those prisoners who had indulged in the peaceful picketing of liquor and foreign cloth shops.
(c) The Congress did not agree to the suspension of the Civil Disobedience Movement.
(d) The Congress agreed to take part in the Second Round Table Conference.

Q8. Who among the following founded the Bhil Seva Mandal in 1922?
(a) Dayaram Gidumal
(b) Gurusaday Dutt
(c) Dhondo Keshav Karve
(d) Amritlal Vithaldas Thakkar

Q9. In 1911, who among the following introduced a bill in the Imperial Legislative Council for introduction of compulsory and free primary education in India?
(a) Dadabhai Naoroji
(b) Bal Gangadhar Tilak
(c) Sir Harcourt Butler
(d) Gopal Krishna Gokhale

Q10. Which one of the following statements about the Act V of 1843 relating to Slavery in India is correct?
(a) It gave the masters the right to wilfully keep their slaves tied to their estates.
(b) It denied the masters the use of Courts to assert their claims on slaves.
(c) The Law Courts and masters worked jointly in resolving the cases of desertion.
(d) The slaves became the owners of the land.

Q11. Which Maratha statesman signed the Treaty of Bassein on December 31, 1802?
(a) Baji Rao II (b) Vithuji Holkar
(c) Daulat Rao Sindhia (d) Madhava Rao Narayan

Q12. The Amara-Nayaka system was a major political innovation of which Indian imperial rulers?
(a) Cholas (b) Chalukyas
(c) Guptas (d) Vijayanagara

Q13. KIRAN (Knowledge Involvement in Research Advancement through Nurturing) is an initiative to provide opportunities to women scientists who
(a) had a break in their career due to family reasons.
(b) are pursuing innovative research in life sciences.
(c) have collaborative projects with labs in foreign countries.
(d) have leading edge projects in Nano-Science and Technology.

Q14. NIDHI is an umbrella scheme for the promotion of
(a) young and aspiring innovators.
(b) scientific research.
(c) primary health care.
(d) primary education in rural areas.

Q15. The Saubhagya Scheme aims at universal
(a) LPG connection.
(b) household electrification.
(c) primary school education.
(d) public health insurance.

Q16. Mission Indradhanush aims at
(a) reducing child deaths due to pneumonia.
(b) reducing the impact of rotavirus.
(c) elimination of maternal tetanus.
(d) full immunisation of children.

Q17. Which one of the following statements about the DDU — GKY is not correct?
(a) It is a skill training programme
(b) It is for rural youth from poor families
(c) Its objective is placement in wage employment.
(d) It relies entirely on skill training by Government agencies.

Q18. Which of the following statements about the Pradhan Mantri Gram Sadak Yojana are correct?
1. It is part of Government of India's poverty reduction strategy.
2. It is a centrally sponsored scheme for rural development.
3. It provides connectivity in rural areas.
Select the correct answer using the code given below:
(a) 1, 2 and 3 (b) 1 and 3 only
(c) 2 and 3 only (d) 1 and 2 only

Q19. India's territorial limit extends towards the sea up to
(a) 10 nautical miles (b) 12 nautical miles
(c) 14 nautical miles (d) 15 nautical miles

Q20. Which one of the following is a cold ocean current?
(a) Brazilian Current (b) Gulf Stream
(c) North Equatorial Current (d) California Current

Q21. Identify the type of soil on the basis of the given characteristics:
1. They are rich in lime, iron, magnesia and alumina.
2. They are generally clayey, deep and impermeable.
3. They are mainly found in Maharashtra, Madhya Pradesh and Gujarat.
Select the correct answer from the given alternatives:
(a) Laterite soil (b) Red and yellow soil
(c) Saline soil (d) Black soil

Q22. Arabica, Robusta and Liberica are varieties of
(a) Coffee (b) Tea
(c) Sugarcane (d) Cotton

Q23. Aluminium is manufactured from
(a) Copper ore (b) Bauxite ore
(c) Mica ore (d) Manganese ore

Q24. Which one of the following sea ports gained significance for handling iron-ore exports to Japan?
(a) Kandla (b) Ennore
(c) Kochi (d) Mormugao

Q25. Which one of the following is not a function of money?
(a) Acts as an intermediate in the exchange process
(b) Acts as a store of value
(c) Used as the unit of account
(d) Used for regulating consumption

Q26. The situation where the equilibrium level of real GDP falls short of potential GDP is known as
(a) Recessionary gap (b) Inflationary gap
(c) Demand-side inflation (d) Supply-side inflation

Q27. The excess of total expenditure of Government over its total receipts, excluding borrowings, is known as
(a) Primary deficit (b) Fiscal deficit
(c) Current deficit (d) Capital deficit

Q28. Exchange rates state the value of one currency in terms of other currencies. Which one of the following statements with respect to the exchange rate of currency is correct?
(a) Floating exchange rates are rates in which the Governments interfere by buying or selling their currencies.
(b) Fixed exchange rates are rates set by Government decisions and maintained by Government actions.
(c) Under the Bretton Woods System, the exchange rates are floated in terms of rise or fall in price of gold.
(d) Under the classical gold standard, the exchange rates are fixed in terms of price of dollar.

Q29. Francois Bernier was physician to
(a) Prince Murad (b) Princess Jahanara
(c) Emperor Shah Jahan (d) Prince Dara Shikoh

Q30. Which one of the following British firms was taken over by Soorajmull-Nagarmull group?
(a) McLeod (b) Octavius Steel
(c) Davenport (d) Andrew Yule

Q31. Which one of the following statements with regard to ryotwari settlement is not correct?
(a) In southern and western India, the ryotwari settlement was adopted.
(b) Ryotwari was in principle a direct contract between the ryot and the state.
(c) It means a tax contract valid for usually 30 years.
(d) In principle, it strengthened the former elite, the zamindars and weakened the peasantry.

Q32. Which one of the following statements about the British Indian Medical Service (IMS) is not correct?
(a) IMS began in 1764.
(b) It recruited health professionals by means of a competitive examination.
(c) Indians were never admitted to IMS.
(d) The IMS was at first meant to look after the troops.

Q33. When was the monopoly of China trade lost by East India Company?
(a) 1813 (b) 1833
(c) 1838 (d) 1860

Q34. National Disaster Management Authority is headed by
(a) the Prime Minister. (b) the Home Minister.
(c) the President. (d) the Health Minister.

Q35. Which of the following statements regarding the 'casting vote' in the Parliament is/are correct?
1. It is cast by the speaker or a person acting as such.
2. It is cast in addition to voting in the first instance.
3. It is cast in the case of equality of votes.
4. It is always cast to maintain the status quo. Select the correct answer using the code given below:
(a) 1, 2 and 3 only (b) 1 and 3 only
(c) 2 and 4 only (d) 3 only

Q36. Equality before the law or equal protection of the laws within the territory of India is guaranteed under which one of the following Articles of the Constitution of India?
(a) Article 14 (b) Article 15
(c) Article 16 (d) Article 22

Q37. 'Legal Positivism' theory was developed by
(a) T.H. Green (b) Thomas Hobbes
(c) John Austin (d) Patrick Devlin

Q38. Who among the following said that Democracy means a system of 'Government by Consent'?
(a) John Locke (b) J.S. Mill
(c) Jeremy Bentham (d) J.J. Rousseau

Q39. Milpa and Ladang are different names for
(a) shifting cultivation. (b) mixed farming.
(c) truck farming. (d) plantation agriculture.

Q40. Which one of the following approaches of human development was initially proposed by the International Labour Organisation (ILO) and emphasised on health, education, food, water supply, sanitation and housing?
(a) Welfare approach (b) Basic needs approach
(c) Income approach (d) Capability approach

Q41. Which one of the following tributaries of river Indus feeds the canal system of the Bhakra Nangal Project?
(a) Chenab (b) Satluj
(c) Ravi (d) Jhelum

Q42. When the rivers discharge their waters from all directions into a lake or depression, the pattern is known as
(a) Trellis (b) Dendritic
(c) Radial (d) Centripetal

Q43. Which one of the following statements about the Coriolis force is not correct?
(a) It is maximum at the Poles.
(b) It is absent at the Equator.
(c) It deflects the wind to the right direction in the southern hemisphere.
(d) It deflects the wind to the right direction in the northern hemisphere.

Q44. Chronologically arrange the following treaties/conventions signed between the Marathas and the British (starting with the earliest):
1. Treaty of Salbai
2. Treaty of Purandar
3. Convention of Wadgaon
4. Treaty of Surat
Select the correct answer using the code given below:
(a) 4-2-3-1 (b) 4-3-2-1
(c) 1-3-2-4 (d) 1-2-3-4

Q45. Which of the following statements about the Sanyasi and Faqir disturbances/rebellions are correct?
1. Governor-General Warren Hastings faced the persistent Sanyasi and Faqir disturbances in Bengal and Bihar.
2. There were a number of Shaivite Naga Sanyasis who formed into armed bands.
3. Majnu Shah, who led bands into Bengal from 1771, was their prominent leader.
Select the correct answer using the code given below:
(a) 1 and 2 only (b) 1, 2 and 3
(c) 2 and 3 only (d) 1 and 3 only

Q46. In 1943, young leaders in which one of the following districts of Maharashtra set up a parallel Government (prati sarkar) with volunteer corps (seva dais) and village units (tufan dals)?
(a) Pune (b) Nasik
(c) Nagpur (d) Satara

Q47. Who founded the Central Hindu School at Benaras which was later developed into Benaras Hindu University?
(a) Madan Mohan Malaviya
(b) Annie Besant
(c) Ishwar Chandra Vidyasagar
(d) Madame H.P. Blavatsky

Q48. Which one among the following is not a feature of centralization?
(a) National unity (b) Uniformity
(c) Prosperity (d) Liberty

Q49. Which one of the following is not an objective of NITI Aayog?
(a) It provides a critical direction and strategic input for development process.
(b) It functions as a 'think tank' in providing key elements of policy.
(c) It monitors and evaluates the implementation of the programmes.
(d) It offers a platform for resolution of inter-state conflicts as 'provider of first and last resort'.

Q50. Article 231 of the Constitution of India grants power to establish a common High Court for two or more states to
(a) the Parliament. (b) the Supreme Court.
(c) the President of India. (d) the Union Cabinet.

Q51. Which one among the following motions cannot be made while introducing an ordinary Bill in the Parliament?
(a) That the Bill be taken into consideration
(b) That the Bill be circulated for the purpose of eliciting public opinion
(c) That the Bill be referred to a Select Committee
(d) That the Bill be referred to a Joint Committee of the House without the concurrence of the other House

Q52. Which one among the following was eliminated by the 44th Amendment Act of the Parliament?
(a) Right against Exploitation
(b) Right to Constitutional Remedies
(c) Right to Property
(d) Right to Education

Q53. Identify the crop on the basis of the following characteristics:
1. It is a kharif crop.
2. Aus, Aman and Boro are its three different growing periods in an agricultural year.
3. About one-fourth of the total cropped area of India is under its cultivation.
Select the correct answer using the code given below:
(a) Wheat (b) Rice
(c) Pulses (d) Cotton

Q54. Which one of the following is a type of igneous rock?
(a) Marble (b) Halite
(c) Granite (d) Shale

Q55. Ozone layer, which absorbs the ultra-violet radiation, is found in which one of the following layers of the atmosphere?
(a) Ionosphere (b) Troposphere
(c) Mesosphere (d) Stratosphere

Q56. Which one of the following statements about primary waves of earthquakes is not correct?
(a) They are similar to sound waves.
(b) They can travel only through, solid materials.
(c) They travel through gaseous, liquid and solid materials.
(d) They move faster and are the first to arrive at the surface.

Q57. Alluvial soils vary in nature from sandy loam to clay. They are generally
(a) poor in potash and rich in phosphorus.
(b) poor in both potash and phosphorus.
(c) rich in both potash and phosphorus.
(d) rich in potash and poor in phosphorus.

Q58. Who among the following was popularly known as `Lokahitwadi'?
(a) Gopal Hari Deshmukh
(b) Mahadev Govind Ranade
(c) Gopal Krishna Gokhale
(d) Jyotiba Phule

Q59. Who among the following socialist activists persuaded Gandhiji not to restrict the salt march protest to men alone?
(a) Kamaladevi Chattopadhyay (b) Sarojini Naidu
(c) Matangini Hazra (d) Mithuben Petit

Q60. Which one of the following painters was not associated with Humayun?
(a) Mir Sayyid Ali
(b) Maulana Dost Musawir
(c) Maulana Yusuf
(d) Bihzad

Q61. Match List I with List II and select the correct answer using the code given below the lists:
List I (Author)
A. Brindavan Das
B. Krishnadas Kaviraj
C. Mukundaram Chakravarti
D. Rameshwar Bhattacharya
List II (Poetical work)
1. Shivasankirttan
2. Chandimangal
3. Chaitanyacharitamrita
4. Chaitanyamangal
Code:
(a) A-4, B-2, C-3, D-1 (b) A-4, B-3, C-2, D-1
(c) A-1, B-3, C-2, D-4 (d) A-1, B-2, C-3, D-4

Q62. Which one of the following scholars of Akbar's court translated Bhaskaracharya's Lilavati into Persian?
(a) Abul Fazl (b) Faizi
(c) Fathullah Shirazi (d) Ataullah Rashidi

Q63. Who among the following was the Chairman of the National Commission for Review of the Working of the Constitution (2000)?
(a) Justice M.N. Venkatachaliah (b) Justice J.S. Verma
(c) Justice Ranganath Mishra (d) Justice Y.K. Sabharwal

Q64. M.M. Punchhi Commission on Centre-State Relations has recommended the disposal of a bill reserved for the consideration of the Union Executive within
(a) four months. (b) six months.
(c) eight months. (d) five months.

Q65. Who among the following founded the Marathi newspaper `Kesari'?
(a) Lokmanya Tilak (b) Vallabhbhai Patel
(c) Lala Lajpat Rai (d) Mahatma Gandhi

Q66. Which mega public sector undertaking is designated with `Navratna' status?
(a) IndianOil Corporation Limited
(b) Gas Authority of India Limited
(c) Bharat Petroleum Corporation Limited
(d) Bharat Electronics Limited

Q67. Which of the following statements with regard to the creation of a new state or alteration of boundaries of states is/are correct?
1. An amendment has to be moved in the Parliament under Article 368 of the Constitution of India.
2. Ratification by one half of the states is necessary after the amendment is made by the Parliament.
3. The legislation can be passed by a simple majority of both Houses of Parliament.
Select the correct answer using the code given below:
(a) 1 and 3 only (b) 2 only
(c) 3 only (d) 2 and 3 only

Q68. Which one of the following is the largest linguistic group of India?
(a) Sino-Tibetan (b) Austric
(c) Indo-Aryan (d) Dravidian

Q69. Which one of the following water bodies separates the Andaman and the Nicobar islands?
(a) Gulf of Mannar (b) Ten Degree Channel
(c) Eleven Degree Channel (d) Palk Strait

Q70. Which one of the following longitudes is the standard meridian of India?
(a) 83°30' E (b) 82°30' E
(c) 82°30' W (d) 83°30' W

Q71. Match List I with List II and select the correct answer using the code given below the lists:

List I

A. Cyclones
B. Hurricanes
C. Typhoons
D. Willy-willies

List II

1. Western Australia
2. South China Sea
3. Indian Ocean
4. Atlantic Ocean

Code:

(a) A-3, B-2, C-4, D-1 (b) A-3, B-4, C-2, D-1
(c) A-1, B-4, C-2, D-3 (d) A-1, B-2, C-4, D-3

Q72. Which of the following is/are social security scheme(s)?

1. Atal Pension Yojana
2. Pradhan Mantri Jeevan Jyoti Bima Yojana
3. Pradhan Mantri Suraksha Bima Yojana

Select the correct answer using the code given below:

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

Q73. Which one of the following units is not a part of All India Radio's Transcription and Programme Exchange Service?

(a) Central Archives (b) Sound Archives
(c) Advanced Research Unit (d) Transcription Unit

Q74. Which of the following statements about the Panchayati Raj System are correct?

1. All seats in a Panchayat are filled by persons chosen by direct election.
2. The 'Gram Sabha' consists of persons registered in the village electoral rolls.
3. The Chairperson of a Panchayat is elected in accordance with a law passed by each state.
4. All states in India have a three-tier system of Panchayats.

Select the correct answer using the code given below:

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

Q75. Which of the following statements is/are correct?

1. The elections to the Panchayat are conducted by the State Election Commission.
2. The State Election Commissioner is appointed by the Chief Election Commissioner of India.
3. The State Legislatures have the power to make laws on all matters relating to Panchayat elections.

Select the correct answer using the code given below:

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

Q76. Which one of the following is not a correct description of the Union Cabinet?

(a) It is part of the Parliament.
(b) It is responsible to the Parliament.
(c) It remains in power till it enjoys the confidence of the Parliament.
(d) A person from outside the Parliament can never be appointed a member of the Cabinet.

Q77. Which one of the following statements about the composition of the Parliament is not correct?

(a) Representatives of the states in Rajya Sabha are elected directly by the people.
(b) Representatives from Union Territories in Lok Sabha are chosen by direct elections.
(c) Rajya Sabha has 12 nominated members.
(d) Lok Sabha has seats reserved for SCs and STs.

Q78. Which among the following fundamental rights is/are available to non-citizens?

1. Freedom of speech
2. Protection against self-incrimination
3. Freedom of conscience
4. Non-discrimination in matters of employment

Select the correct answer using the code given below:

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

Q79. Which one of the following statements about the Vice-President of India is not correct?

(a) He is not eligible for re-election.
(b) He must not be less than 35 years of age.
(c) He is elected by members of an electoral college consisting of members of both Houses of Parliament.
(d) His term of office is five years.

Q80. A motion of no-confidence is moved against

(a) an individual Minister.
(b) the Council of Ministers.
(c) the Prime Minister.
(d) a political party.

Q81. Which one of the following is correct about `Pinaka'?

(a) It is a multi-barrel rocket system.
(b) It is a type of battle tank.
(c) It is an advanced submarine.
(d) It is an indigenously developed drone system.

Q82. Which one of the following is not a member of the Quad group of nations?

(a) France (b) USA
(c) Australia (d) Japan

Q83. The first phase of Exercise Malabar, 2020 was conducted at

(a) Port Blair (b) Mumbai
(c) Visakhapatnam (d) Kochi

Q84. Hollywood actor Sir Sean Connery, who died recently, was popularly known for the portrayal of the role
(a) Rocky (b) Captain Jack Sparrow
(c) Terminator (d) James Bond

Q85. The Luhri Hydro-Electric Power Project is being constructed on the river
(a) Satluj (b) Beas
(c) Ravi (d) Chenab

Q86. 'CARAT Bangladesh 2020' was a joint naval exercise between Bangladesh and
(a) India (b) USA
(c) Japan (d) Thailand

Q87. Peninsula Shield Force is a military arm of
(a) Organization of Islamic Cooperation
(b) Organization of the Petroleum Exporting Countries
(c) Gulf Cooperation Council
(d) Arab League

Q88. Which one of the following ships was involved in 'Mission Sagar - II'?
(a) INS Shakti (b) INS Vikramaditya
(c) INS Kesari (d) INS Airavat

Q89. In the year 2020 which one of the following tiger reserves of India was declared by UNESCO as a Biosphere Reserve?
(a) Panna Tiger Reserve
(b) Namdapha Tiger Reserve
(c) Dudhwa Tiger Reserve
(d) Pench Tiger Reserve

Q90. The Kaleshwaram Lift Irrigation System, which was in the news recently, is constructed in
(a) Kerala (b) Gujarat
(c) Telangana (d) Maharashtra

Q91. Cell wall is not present in cells of
(a) Bacteria (b) Plants
(c) Fungi (d) Humans

Q92. A child receives a tall beautiful plant as a birthday gift from his father with a quiz. The father asked her how she would verify whether this tall plant was the progeny of both the tall parents or one tall and one short parent plant. She could verify this through
(a) cross-pollination (b) self-pollination
(c) tissue culture (d) negative propagation

Q93. A student was doing an experiment on increasing the cell division among plants. She asked her supervisor to suggest the specific plant hormone for the same. Had you been her supervisor, which plant hormone would you suggest?
(a) Abscisic acid (b) Gibberellins
(c) Cytokinin (d) Auxin

Q94. Which cell organelles have their own DNA and Ribosomes?
(a) Golgi body and Endoplasmic Reticulum
(b) Mitochondria and Plastids
(c) Lysosome and Golgi body
(d) Vacuole and Plastids

Q95. Osmosis is the process of movement of water molecules from its
(a) higher concentration to its lower concentration through a cell wall.
(b) lower concentration to its higher concentration through a fully permeable membrane.
(c) higher concentration to its lower concentration through a fully permeable membrane.
(d) higher concentration to its lower concentration through a semi-permeable membrane.

Q96. Growing of two or more crops simultaneously on the same field in a definite pattern is known as
(a) mixed cropping (b) inter cropping
(c) mixed farming (d) hybrid farming

Q97. When we heat lead nitrate [$Pb(NO_3)_2$] in a boiling tube, we observe the emission of brown fumes. Which one of the following is the brown gas?
(a) NO (b) N_2O_2
(c) NO_3 (d) NO_2

Q98. Which one of the following substances do silver articles react with, that makes the silver articles black?
(a) Sulphur (b) Oxygen
(c) Carbon dioxide (d) Phosphorus

Q99. Which one of the following metals is kept immersed in Kerosene oil to protect it and to prevent accidental fire?
(a) Calcium (b) Sodium
(c) Vanadium (d) Magnesium

Q100. A solution contains 20 g of solute in 180 g of solvent. If the solvent is water, what is the concentration of the solution in terms of mass by mass percentage?
(a) 11.1% (b) 22.2%
(c) 10% (d) 20%

Q101. Which one of the following elements is a non-metal but is lustrous?
(a) Carbon (b) Silicon
(c) Germanium (d) Iodine

Q102. Which one of the following metals has both malleability and ductility properties?
(a) Na (b) Au
(c) Ce (d) Hg

Q103. We are given three copper wires of different lengths and different areas of cross-section. Which one of the following would have highest resistivity?
(a) Copper wire of 50 cm length and 1 mm diameter
(b) Copper wire of 25 cm length and 0.5 mm diameter
(c) Copper wire of 10 cm length and 2.0 mm diameter
(d) All the wires would have same resistivity

Q104. Which of the following statements about 'fission' is correct?
1. It is related with the creation of new individuals by means of cell division in unicellular organism.
2. It is related with the transformation of heavier nuclei into smaller nuclei.
3. It is related with the creation of a heavier nuclei by means of combining two higher nuclei.
Select the correct answer using the code given below:
(a) 1 only (b) 2 only
(c) 1 and 2 only (d) 1 and 3 only

Q105. Which one of the following is an electric conductor?
(a) A plastic sheet (b) Distilled water
(c) Human body (d) A wooden thin sheet

Q106. A non-spherical shining spoon can generally be considered as a
(a) Spherical mirror (b) Parabolic mirror
(c) Plane mirror (d) Lens

Q107. Who amongst the following is a pioneer in discovering the heating effect of electric current?
(a) Isaac Newton (b) Galileo Galilei
(c) James P. Joule (d) J. J. Thomson

Q108. Which one of the following laws of electromagnetism does not give the direction of magnetic field?
(a) Right-hand thumb rule
(b) Fleming's left-hand rule
(c) Fleming's right-hand rule
(d) Faraday's law of electromagnetic induction

Q109. An antibiotic is not useful against a virus whereas a vaccine is. Which one of the following is the most appropriate reason for this?
(a) An antibiotic can break RNA only, whereas virus has DNA.
(b) An antibiotic is a carbohydrate in its chemical nature, whereas a vaccine is a protein which works well to kill a virus.
(c) Only a vaccine can break the genetic material of a virus.
(d) A virus does not use biochemical pathways which can be blocked by an antibiotic. But a vaccine can boost an immune system to fight the virus.

Q110. 'Sleeping sickness' is caused by
(a) Trypanosoma (b) Leishmania
(c) Plasmodium (d) Paramecium

Q111. Which one among the following is a free living animal?
(a) Liver fluke (b) Wuchereria
(c) Plasmodium (d) Planaria

Q112. Which one of the following is the structure of a cardiac muscle cell?
(a) Cylindrical, Unbranched and Multinucleate
(b) Spinal shaped, Unbranched and Uninucleate
(c) Spinal shaped, Branched and Uninucleate
(d) Cylindrical, Branched and Uninucleate

Q113. Which one of the following naturally occurring acids is found in abundance in tomato?
(a) Acetic acid (b) Lactic acid
(c) Oxalic acid (d) Tartaric acid

Q114. Which one of the following is used in soda-acid fire extinguishers?
(a) Sodium chloride
(b) Sodium hydrogen carbonate
(c) Calcium hydroxide
(d) Acetic acid

Q115. Which one of the following sodium compounds is used for softening hard water?
(a) Na_2CO_3 (b) $NaHCO_3$
(c) NaOH (d) Na_2SO_4

Q116. Calcium oxide reacts vigorously with water to produce slaked lime whose solution is used for white-washing walls. This slaked lime reacts with component (A) in air to form a thin layer of component (B) to give a shiny finish. What are the components (A) and (B)?
(a) A – O_2; B – $CaCO_3$ (b) A – CO_2; B – $Ca(OH)_2$
(c) A – O_2; B – $Ca(OH)_2$ (d) A – CO_2; B – $CaCO_3$

Q117. How many internal reflections of light take place in the formation of primary rainbow?
(a) 0 (b) 1
(c) 2 (d) More than 2

Q118. The direction of acceleration in uniform circular motion is along the
(a) direction of motion.
(b) tangent to the circle at the point of observation.
(c) direction of velocity.
(d) direction perpendicular to velocity.

Q119. The weight of an object is due to
(a) the net force acting on it.
(b) the total of all forces acting on it irrespective of their directions.
(c) the force that it exerts on the ground.
(d) its inert property.

Q120. The size of particles being studied in `nano-technology' is about
(a) 1Å – 10 nm (b) 1 – 100 nm
(c) 1 – 50 μ (d) 1 mm – 10 mm

Solutions

S1. Ans.(a)
Sol. Except option (a), all other statements are true. Real GDP is not calculated by valuing outputs of different years at common prices. But the real GDP is the value of final goods and services produced in a given year expressed in terms of the prices in a base year.

S2. Ans.(a)
Sol. Structural unemployment is a form of involuntary unemployment caused by a mismatch between the skills that workers in the economy can offer, and the skills demanded of workers by employers. Structural unemployment is often brought about by technological changes that make the job skills of many workers obsolete.

S3. Ans.(a)
Sol. Stagflation or recession-inflation is a situation in which the inflation rate is high, the economic growth rate slows, and unemployment remains steadily high. It presents a dilemma for economic policy, since actions intended to lower inflation may exacerbate unemployment.

S4. Ans.(a)
Sol. The crowding in effects occurs because higher government spending leads to an increase in economic growth and therefore encourages firms to invest because there are now more profitable investment opportunities.

S5. Ans.(b)
Sol. Collateral is an item of value that a lender can seize from a borrower if he or she fails to repay a loan according to the agreed terms.

S6. Ans.(b)
Sol. The nominal interest rate or nominal rate of interest is either of two distinct things: the rate of interest before adjustment for inflation; or, for interest rates "as stated" without adjustment for the full effect of compounding. In short, it is the percentage by which the money the borrower pays back exceeds the money that was borrowed.

S7. Ans.(d)
Sol. The Gandhi–Irwin Pact was a political agreement signed by Mahatma Gandhi and Lord Irwin, Viceroy of India, on 5 March 1931 before the Second Round Table Conference in London. The Second Round Table Conference was held from September to December 1931 in London. This movement marked the end of the Civil Disobedience Movement in India. Arrest of Abdul Ghaffar Khan in April 1930 and Mahatma Gandhi in May 1930 resulted in protests in Peshawar and Sholapur respectively.
The Congress agreed to take part in the Second Round Table Conference.

S8. Ans.(d)
Sol. Amritlal Vithaldas Thakkar, popularly known as Thakkar Bapa, was an Indian social worker who worked for upliftment of tribal people in Gujarat state in India. In 1922, he founded the Bhil Seva Mandal.

S9. Ans.(d)
Sol. Gopal Krishna Gokhale had introduced a bill in the Imperial legislative Assembly in 1911 to implement the principle of compulsory primary education for children of 6-10 years age. The bill got failed and was defeated in 1892, March by 38-13.

S10. Ans.(b)
Sol. The Indian Slavery Act, 1843, also known as Act V of 1843, was an act passed in British India under East India Company rule, which outlawed many economic transactions associated with slavery.
The act states how the sale of any person as a slave was banned, and anyone buying or selling slaves would be booked under the Indian Penal Code with an offence carrying strict punishment.
It denied the masters the use of Courts to assert their claims on slaves.

S11. Ans.(a)
Sol. Treaty of Bassein, (Dec. 31, 1802), pact between Baji Rao II, the Maratha peshwa of Poona (now Pune) in India, and the British. It was a decisive step in the breakup of the Maratha confederacy. The pact led directly to the East India Company's annexation of the peshwa's territories in western India in 1818.

S12. Ans.(d)
Sol. One of the major political innovations of the Vijayanagara empire was the Amara- Nayaka system. The Amara-Nayakas were military commanders. They were given territories for governing purposes by the Rayas. As part of their military duties, the Amara- Nayakas maintained an army. This collection of armed forces allowed the Rayas to claim dominance over the entire southern peninsula.

S13. Ans.(a)
Sol. Knowledge Involvement in Research Advancement through Nurturing (KIRAN Scheme) by the Department of Science and Technology (DST)for promoting women in science. In the year 2014, DST restructured all women specific programmes under one umbrella called Knowledge Involvement in Research Advancement through Nurturing (KIRAN).
Its objectives are:

- To increase the number of women researchers in India.
- Provide Research grants particularly to those female researchers and technologists who had to take a break in career owing to household reasons.
- Bring about, as far as achievable, gender parity in the field of science and technology.

S14. Ans.(a)
Sol. NIDHI (National Initiative for Development and Harnessing Innovations), an umbrella program is pioneered by the Department of Science & Technology (DST), Government of India, for nurturing ideas and innovations (knowledge-based and technology-driven) into successful startups.
Objectives of this scheme are:

- To take forward student innovations in IEDC / NewGen IEDC programme to commercialization stage.
- To promote student startups.
- To accelerate the journey of idea to prototype by providing initial funding assistance.

S15. Ans.(b)
Sol. Pradhan Mantri Sahaj Bijli Har Ghar Yojana – 'Saubhagya' a new scheme was launched by the Hon'ble Prime Minister on 25th September 2017. Under Saubhagya, free electricity connections to all households (both APL and poor families) in rural areas and poor families in urban areas were provided.

S16. Ans.(d)
Sol. Mission Indradhanush is a health mission of the Government of India. It was launched by Union Health Minister J. P. Nadda on 25 December 2014. This scheme seeks to drive towards 90% full immunisation coverage of India and sustain the same by year 2020.
Provides vaccination against 12 Vaccine-Preventable Diseases (VPD) i.e. diphtheria, Whooping cough, tetanus, polio, tuberculosis, hepatitis B, meningitis and pneumonia, Haemophilus influenzae type B infections, Japanese encephalitis (JE), rotavirus vaccine, pneumococcal conjugate vaccine (PCV) and measles-rubella (MR).

S17. Ans.(d)

Sol. The Ministry of Rural Development (MoRD) announced the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) on Antyodaya Diwas - 25th September 2014. DDU-GKY is a part of the National Rural Livelihood Mission (NRLM), tasked with the dual objectives of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth.
DDU-GKY is uniquely focused on rural youth between the ages of 15 and 35 years from poor families.

S18. Ans.(a)

Sol. This Centrally Sponsored Scheme was introduced in 2000 by the then-prime minister of India Late Shri Atal Bihari Vajpayee.
The main objective of PMGSY is to connect all unconnected habitations in the rural areas through construction of all-weather roads with necessary culverts and cross-drainage structures, in a manner that will provide the most economic and efficient connectivity thus promoting access to economic and social infrastructure as well as assist the habitants in crossing the Poverty Line.

S19. Ans.(b)

Sol. India's territorial limit extends towards the sea up to 12 nautical miles (22.224 km) from the nearest point of the baseline.

S20. Ans.(d)

Sol. The California Current is a cold water Pacific Ocean current that moves southward along the western coast of North America, beginning off southern British Columbia and ending off southern Baja California Sur.

S21. Ans.(d)

Sol. Listed below are the properties of Black soil:

- Clayey texture and are highly fertile
- Rich in calcium carbonate, magnesium, potash, and lime but poor in nitrogen and phosphorous
- Highly retentive of moisture, extremely compact and tenacious when wet
- Contractible and develops deep wide cracks on drying
- Calcareous and neutral to mild alkaline in reaction, high in carbon exchange capacity and low in organic matter
- Self-ploughing and comparatively less fertile on the uplands than on the lowlands.

This stretch over the parts of Gujarat, Maharashtra, Western parts of Madhya Pradesh, North- Western Andhra Pradesh, Karnataka, Tamil Nadu, Rajasthan, Chhattisgarh, Jharkhand up to Raj Mahal hills. The soil is rich in iron, lime, calcium, potash, magnesium, and aluminium. It has high water retaining capacity and is good for cotton cultivation, Tobacco, citrus fruits, castor, and linseed.

S22. Ans.(a)

Sol. There are 3 main types of coffee beans. The names of these coffee beans are Robusta, Liberica and Arabica. There are also sub-types of these beans. But these are the main bean types. These types of beans take on different flavors while they are being processed and harvested.
Liberica: Liberica is a low yield type of coffee compared to Arabica and Robusta.
Robusta: This type of coffee, which contains 2.5% more caffeine than other types, has a pretty strong taste.
Arabica: This coffee bean with low caffeine and a smoother taste is aromatic and delicious. 80% of the coffee in the world is produced from these types of beans.

S23. Ans.(b)

Sol. Bauxite is a sedimentary rock with a relatively high aluminium content. It is the world's main source of aluminium and gallium. Bauxite consists mostly of the aluminium minerals gibbsite ($Al(OH)_3$), boehmite (γ-AlO(OH)) and diaspore (α-AlO(OH)), mixed with the two iron oxides goethite (FeO(OH)) and haematite (Fe_2O_3), the aluminium clay mineral kaolinite ($Al_2Si_2O_5(OH)_4$) and small amounts of anatase (TiO2) and ilmenite (FeTiO3 or FeO.TiO2). Bauxite appears dull in luster and is reddish-brown, white, or tan in color.

S24. Ans.(d)

Sol. Mormugao Port Trust is a port on the western coast of India, in the coastal state of Goa. Commissioned in 1885 on the site of a natural harbour, it is one of India's oldest ports. It gained significance for handling iron-ore exports to Japan.

S25. Ans.(d)

Sol. Money is an economic unit that functions as a generally recognized medium of exchange for transactional purposes in an economy. Money provides the service of reducing transaction cost, namely the double coincidence of wants. Money originates in the form of a commodity, having a physical property to be adopted by market participants as a medium of exchange.
To summarize, money has taken many forms through the ages, but money consistently has three functions: store of value, unit of account, and medium of exchange.

S26. Ans.(a)

Sol. A recessionary gap, or contractionary gap, is a macroeconomic term used when a country's real gross domestic product (GDP) is lower than its GDP at full employment. Recessionary gaps close when real wages return to equilibrium, and the quantity of labor demanded equals the quantity supplied.
Policymakers may choose to implement a stabilization policy to close the recessionary gap and increase real GDP.

S27. Ans.(b)
Sol. Fiscal Deficit is the difference between the total income of the government (total taxes and non-debt capital receipts) and its total expenditure.
A fiscal deficit situation occurs when the government's expenditure exceeds its income. This difference is calculated both in absolute terms and also as a percentage of the Gross Domestic Product (GDP) of the country.
A recurring high fiscal deficit means that the government has been spending beyond its means.

S28. Ans.(b)
Sol. Fixed exchange rates are rates set by Government decisions and maintained by Government actions. This is the only correct answer regarding exchange rates.

S29. Ans.(d)
Sol. François Bernier was a French physician and traveller. He stayed for around 12 years in India and was appointed physician to prince Dara Shikoh.

S30. Ans.(a)
Sol. McLeod India Ltd is an Indian tea company which is world's largest tea growing company. Soorajmull Jalan and Nagarmull Bajoria were Marwari traders based in Calcutta. They took over McLeod.

S31. Ans.(d)
Sol. The ryotwari system was a land revenue system in British India which was introduced by Sir Thomas Munro in 1820. It was adopted in southern and western India and was a contract for 30 years. Ryotwari was in principle a direct contract between the ryot and the state.

S32. Ans.(c)
Sol. The Indian Medical Service (IMS) was a military medical service in British India, which began in 1764. It recruited health professionals by means of a competitive examination. It served during the two World Wars, and remained in existence until the independence of India in 1947. The IMS was at first meant to look after the troops.

S33. Ans.(b)
Sol. Charter Act 1833 or the Saint Helena Act 1833 was passed by the British Parliament to renew the charter of East India Company which was last renewed in 1813. Via this act, the charter was renewed for 20 years but the East India Company was deprived of its commercial privileges of monopoly of China trade which it enjoyed so far.

S34. Ans.(a)
Sol. National Disaster Management Authority, abbreviated as NDMA, is an apex Body of Government of India, with a mandate to lay down policies for disaster management. NDMA was established through the Disaster Management Act enacted by the Government of India on 23 December 2005. It is headed by the Prime Minister.

S35. Ans.(b)
Sol. A casting vote is a vote that someone may exercise to resolve a deadlock. A casting vote is typically by the presiding officer of a council, legislative body, committee, etc., and may only be exercised to break a deadlock.

S36. Ans.(a)
Sol. Article 14 of the Constitution of India provides for equality before the law or equal protection of the laws within the territory of India. It states: "The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India."

S37. Ans.(c)
Sol. Legal positivism is a school of thought of analytical jurisprudence developed largely by legal philosophers during the 18th and 19th centuries, such as Jeremy Bentham and John Austin. While Bentham and Austin developed legal positivist theory, empiricism provided the theoretical basis for such developments to occur.
Legal positivism is in opposition to natural law's theories of jurisprudence, with particular disagreement surrounding the natural lawyer's claim that there is a necessary connection between law and morality.

S38. Ans.(a)
Sol. John Locke FRS was an English philosopher and physician, widely regarded as one of the most influential of Enlightenment thinkers and commonly known as the "Father of Liberalism". He said that Democracy means a system of 'Government by Consent'.

S39. Ans.(a)
Sol. Shifting cultivation is an agricultural system in which a person uses a piece of land, only to abandon or alter the initial use a short time later. This system often involves clearing of a piece of land followed by several years of wood harvesting or farming until the soil loses fertility.
Milpa and Ladang are different names for shifting cultivation.

S40. Ans.(b)
Sol. Basic needs approach of human development was initially proposed by the International Labour Organisation (ILO) and emphasised on health, education, food, water supply, sanitation and housing.

S41. Ans.(b)
Sol. Bhakra Dam is a concrete gravity dam on the Sutlej River in Bilaspur, Himachal Pradesh in northern India. The dam forms the Gobind Sagar reservoir. The dam, located at a gorge near the upstream Bhakra village in Bilaspur district of Himachal Pradesh of height 226 m. Satluj river feeds the canal system of the Bhakra Nangal Project.

S42. Ans.(d)

Sol. Centripetal drainage pattern is formed when rivers discharge their waters from all directions into a lake or a depression. For example, Loktak lake in Manipur.

S43. Ans.(c)

Sol. The coriolis force arises due to the fact that the earth is rotating.

Properties of the coriolis force:

- acts on objects not rigidly attached to the earth
- always acts to deflect an object to the right (left) of its direction of motion in the northern (southern) hemisphere
- magnitude is zero at the equator, maximum at the poles
- magnitude depends on the rotation rate of the earth
- the magnitude would increase if the earths rotation rate increased
- if the earth were not rotating, the coriolis force would be zero

S44. Ans.(a)

Sol. Treaty of Salbai - 17 May 1782
Treaty of Purandar - 1 March 1776
Convention of Wadgaon – 13 January 1779
Treaty of Surat - 6 March 1775

S45. Ans.(b)

Sol. All three statements are correct.

S46. Ans.(d)

Sol. The Satara Parallel government in Maharashtra from August 1943 to May 1946 against British rule was an armed offshoot of the 1942 Quit India movement, like the parallel governments in Midnapore in Bengal, Bhagalpur in Bihar, Ballia in Uttar Pradesh and Basudevpur in Odisha.

The leader of the Satara Parallel government was 'Kratisimha' Nana Patil (1900-1976). British rule was effectively overthrown in large parts of Satara district (now bifurcated into Satara and Sangli districts) of Western Maharashtra during those three years. The Parallel government (Prati Sarkar) movement was a guerrilla type of struggle, and it operated in over 150 villages with solid peasant support. There were raids on taluka treasuries and armouries. The Prati Sarkar took over many of the functions of the government.

S47. Ans.(b)

Sol. Central Hindu School, formerly known as Central Hindu College, is one of India's largest schools which is situated at Kamachha in the heart of the holy city Varanasi.

CHS was founded by noted freedom-fighter Annie Besant in July 1898, with Dr. Arthur Richardson, a science graduate from England as the principal. Later Annie Besant dedicated this school to Pt. Madan Mohan Malviya. Administration of this school is now a responsibility of Banaras Hindu University and the Institution went on to become the nucleus of Banaras Hindu University, which was established in 1916.

S48. Ans.(d)

Sol. Liberty is not a feature of centralization.

S49. Ans.(d)

Sol. Some of the objectives of NITI Aayog are:

- It provides a critical direction and strategic input for development process.
- It functions as a 'think tank' in providing key elements of policy.
- It monitors and evaluates the implementation of the programmes.

S50. Ans.(a)

Sol. Article 231 of the Constitution of India grants power to establish a common High Court for two or more states to the Parliament.

S51. Ans.(d)

Sol. That the Bill be referred to a Joint Committee of the House without the concurrence of the other House

S52. Ans.(c)

Sol. The Forty-fourth Amendment of the Constitution of India, officially known as the Constitution (Forty-fourth Amendment) Act, 1978, was enacted by the Janata Party which had won the 1977 general elections campaigning on a promise to "restore the Constitution to the condition it was in before the Emergency". The Amendment aimed to undo several changes that had been made to the Constitution by the 42nd Amendment which had been enacted by the Indira Gandhi-led Indian National Congress during the Emergency.

The fundamental right "Right to property" was abolished by 44th CA.

S53. Ans.(b)

S54. Ans.(c)

Sol. Igneous rock, or magmatic rock, is one of the three main rock types, the others being sedimentary and metamorphic. Igneous rock is formed through the cooling and solidification of magma or lava. The magma can be derived from partial melts of existing rocks in either a planet's mantle or crust.

Some examples are: Granite, Basalt, Pumice.

S55. Ans.(d)

Sol. The ozone layer or ozone shield is a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet radiation. It contains a high concentration of ozone in relation to other parts of the atmosphere, although still small in relation to other gases in the stratosphere.

S56. Ans.(b)

Sol. A P wave (primary wave or pressure wave) is one of the two main types of elastic body waves, called seismic waves in seismology. P waves travel faster than other seismic waves and hence are the first signal from an earthquake to arrive at any affected location or at a seismograph. P waves may be transmitted through gases, liquids, or solids.

S57. Ans.(d)

Sol. Alluvium is loose clay, silt, sand, or gravel that has been deposited by running water in a stream bed, on a floodplain, in an alluvial fan or beach, or in similar settings. Alluvium is also sometimes called alluvial deposit. Alluvium is typically geologically young and is not consolidated into solid rock. They are generally rich in potash and poor in phosphorus.

S58. Ans.(a)

Sol. Gopal Hari Deshmukh was an Indian activist, thinker, social reformer and writer from Maharashtra. His original surname was Shidhaye. Because of 'Vatan' that the family had received, the family was later called Deshmukh. Deshmukh is regarded as an important figure of the Social Reform Movement in Maharashtra.

S59. Ans.(a)

S60. Ans.(d)

Sol. Kamāl ud-Dīn Behzād, also known as Kamal al-din Bihzad or Kamaleddin Behzad, was a Persian painter and head of the royal ateliers in Herat and Tabriz during the late Timurid and early Safavid Persian periods. He is regarded as marking the highpoint of the great tradition of Islamic miniature painting.

S61. Ans.(b)

Sol. Shivasankirttan – written by Rameshwar Bhattacharya

Chandimangal – written by Mukundaram Chakravarti

Chaitanyacharitamrita – written by Krishnadas Kaviraj

Chaitanyamangal – written by Brindavan Das

S62. Ans.(b)

Sol. Abu al-Faiz ibn Mubarak, popularly known by his pen-name, Faizi was a poet and scholar of late medieval India whose ancestors Malik-ush-Shu'ara of Akbar's Court. He was the elder brother of Akbar's historian Abul Fazl. He translated Bhaskaracharya's Lilavati into Persian.

S63. Ans.(a)

Sol. Justice M.N. Venkatachaliah was the Chairman of the National Commission for Review of the Working of the Constitution (2000).

S64. Ans.(b)

Sol. Madan Mohan Punchhi was the 28th Chief Justice of India from 18 January 1998 until his retirement on 9 October 1998. M.M. Punchhi Commission on Centre-State Relations recommended the disposal of a bill reserved for the consideration of the Union Executive within 6 months.

S65. Ans.(a)

Sol. Kesari is a Marathi newspaper which was founded in 4 January 1881 by Lokmanya Bal Gangadhar Tilak, a prominent leader of the Indian Independence movement. The newspaper was used as a spokes piece for the Indian national freedom movement, and continues to be published by the Kesari Maratha Trust and Tilak's descendants.

S66. Ans.(d)
Sol. Bharat Electronics Limited is an Indian Government-owned aerospace and defence electronics company. It primarily manufactures advanced electronic products for ground and aerospace applications. BEL is one of nine PSUs under the Ministry of Defence of India. It is among 14 Navratna companies in India.

S67. Ans.(c)
Sol. Article 3 is related to the formation of new States and alteration of areas, boundaries or names of existing States. Parliament may by law:
(a) form a new State by separation of territory from any State or by uniting two or more States or parts of States or by uniting any territory to a part of any State;
(b) increase the area of any State;
(c) diminish the area of any State;
(d) alter the boundaries of any State;
(e) alter the name of any State;

S68. Ans.(c)
Sol. The Indo-Aryan languages are a branch of the Indo-Iranian languages, themselves a branch of the Indo-European language family. As of the early 21st century more than 800 million people speak Indo-Aryan languages, primarily in India, Bangladesh, Nepal, Pakistan and Sri Lanka.
It is the largest linguistic group of India.

S69. Ans.(b)
Sol. The Ten Degree Channel is a channel that separates the Andaman Islands and Nicobar Islands from each other in the Bay of Bengal. The two sets of islands together form the Indian Union Territory (UT) of Andaman and Nicobar Islands. This channel is 150 kilometres (93 mi) wide from north to south, and approximately 10 kilometres (6.2 mi) long from east to west. It has minimum depth of 7.3m and lies from east to west on the 10-degree line of latitude north of the equator, hence the name.

S70. Ans.(b)
Sol. 82°30'E – This meridian or longitude is also termed as the Standard Meridian of India. From Gujarat to Arunachal Pradesh, there is a time lag of two hours. Hence, time along the Standard Meridian of India (82°30'E) passing through Mirzapur (in Uttar Pradesh) is taken as the standard time for the whole country.

S71. Ans.(b)
Sol. In list I, different names of cyclones in different countries are given.

Name of Cyclone	Region
Cyclones	Indian Ocean
Hurricanes	Atlantic Ocean
Typhoons	South China Sea
Willy-willies	Western Australia

S72. Ans.(c)
Sol. All three given schemes are social security schemes.
1. Atal Pension Yojana, formerly known as Swavalamban Yojana is a government-backed pension scheme in India, primarily targeted at the unorganised sector. It was mentioned in the year 2015 Budget speech by the Finance Minister Arun Jaitley. It was launched by Prime Minister Narendra Modi on 9 May 2015 in Kolkata.
2. Pradhan Mantri Jeevan Jyoti Bima Yojana is a government-backed Life insurance scheme in India. It was originally mentioned in the year 2015 Budget speech by Finance Minister Arun Jaitley in February 2015. It was formally launched by Prime Minister Narendra Modi on 9 May in Kolkata.
3. Pradhan Mantri Suraksha Bima Yojana is a government-backed accident insurance scheme in India. It was originally mentioned in the 2015 Budget speech by Finance Minister Late Arun Jaitley in February 2015. It was formally launched by Prime Minister Narendra Modi on 8 May in Kolkata.

S73. Ans.(c)
Sol. Advanced Research Unit is not a part of All India Radio's Transcription and Programme Exchange Service.

S74. Ans.(b)
Sol. In India, the Panchayati Raj now functions as a system of governance in which gram panchayats are the basic units of local administration. The system has three levels: Gram Panchayat (village level), Mandal Parishad or Block Samiti or Panchayat Samiti (block level), and Zila Parishad (district level).

- All seats in a Panchayat are filled by persons chosen by direct election.
- The 'Gram Sabha' consists of persons registered in the village electoral rolls.
- The Chairperson of a Panchayat is elected in accordance with a law passed by each state.

S75. Ans.(d)
Sol. The State Election Commissioner is appointed by the Governor of that state, not by the Chief Election Commissioner of India.

S76. Ans.(d)
Sol. Union Cabinet is a part of the Parliament and is responsible to the Parliament. It remains in power till it enjoys the confidence of the Parliament. A person from outside the Parliament can be appointed a member of the Cabinet.

S77. Ans.(a)

Sol. The representatives of the States and of the Union Territories in the Rajya Sabha are elected by the method of indirect election. The representatives of each State and two Union territories are elected by the elected members of the Legislative Assembly of that State and by the members of the Electoral College for that Union Territory, as the case may be, in accordance with the system of proportional representation by means of the single transferable vote.

S78. Ans.(c)

Sol. Protection against self-incrimination and Freedom of conscience are the fundamental rights that are available to the non-citizens of India also.

S79. Ans.(a)

Sol. The Vice-President of India is also ex-officio chairman of the Rajya Sabha and is elected by members of an electoral college consisting of members of both Houses of Parliament.

A person can be elected as the Vice-President of India if he/she:

- is a citizen of India
- has completed the age of 35 years
- is qualified for election as a member of the Council of States (Rajya Sabha)

S80. Ans.(b)

Sol. A motion of no confidence, vote of no confidence, or no confidence motion, sometimes in the reverse as a motion of confidence or vote of confidence, is a statement or vote about whether a person in a position of responsibility (government, management, etc.) is still deemed fit to hold that position, such as because they are inadequate in some aspect, fail to carry out their obligations, or make decisions that other members feel as being detrimental. The parliamentary motion demonstrates to the head of state that the elected Parliament either has or no longer has confidence in one or more members of the appointed government.

S81. Ans.(a)

Sol. Pinaka is a multiple rocket launcher produced in India and developed by the Defence Research and Development Organisation for the Indian Army. The system has a maximum range of 40 km for Mark-I and 60 km for Mark-I enhanced version, and can fire a salvo of 12 HE rockets in 44 seconds.

S82. Ans.(a)

Sol. The Quadrilateral Security Dialogue (QSD, also known as the Quad or QUAD) is a strategic dialogue between the United States, India, Japan and Australia that is maintained by talks between member countries.

S83. Ans.(c)

Sol. Exercise Malabar is a naval exercise involving the United States, Japan and India as permanent partners. The exercise started in 1992 along the Malabar Coast as a bilateral exercise between India and the United States. It was expanded in 2007 with the participation of Japan, Singapore and Australia.

S84. Ans.(d)

Sol. Sir Sean Connery was a Scottish actor. He was the first actor to portray fictional British secret agent James Bond on film, starring in seven Bond films between 1962 and 1983. Some of his movies include The Hill, Murder on the Orient Express, A Bridge Too Far, Highlander, The Untouchables, Indiana Jones and the Last Crusade, The Hunt for Red October, Dragonheart, The Rock.

S85. Ans.(a)

Sol. The Cabinet Committee on Economic Affairs has approved the investment for 210 MW Luhri Stage-I Hydro Electric Project. It is located on River Satluj in Shimla and Kullu districts of Himachal Pradesh.

This project will generate 758.20 million units of electricity annually, which will help in providing grid stability and improve the power supply position.

S86. Ans.(b)

Sol. The Bangladesh and US navies launched the 'Cooperation Afloat Readiness and Training (CARAT) Bangladesh 2020' to expand relationships and broaden maritime awareness between the two countries.

S87. Ans.(c)

Sol. The Peninsula Shield Force (or Peninsula Shield) is the military arm of the Gulf Cooperation Council (GCC). It is intended to deter, and respond to, military aggression against any of the GCC member countries: Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and the United Arab Emirates.

S88. Ans.(d)

Sol. As part of 'Mission Sagar-II', the Government of India provide assistance to Friendly Foreign Countries to overcome natural calamities and Covid-19 pandemic. Mission Sagar-II, follows the first 'Mission Sagar' undertaken in 2020.

As part of Mission Sagar-II, Indian Naval Ship Airavat delivered food aid to Sudan, South Sudan, Djibouti and Eritrea.

Mauritius, Madagascar, Comoros and Seychelles along with La Réunion are part of Indian Ocean Commission. India has recently become an observer to the Commission. The assistance is in line with India's role as the first responder in the Indian Ocean region. The deployment is also in consonance with the Prime Minister's vision of Security and Growth for All in the Region (SAGAR).

Earlier, India had sent Indian Naval Ship (INS) Kesari, carrying food items and medical assistance teams, to countries in the southern Indian Ocean to deal with Covid-19 pandemic as part of a "Mission Sagar" initiative.

S89. Ans.(a)

Sol. Panna National Park is a national park located in Panna and Chhatarpur districts of Madhya Pradesh in India. It was declared in 1994 as the twenty-second Tiger reserve of India and the fifth in Madhya Pradesh. In 2020 it was declared by UNESCO as a Biosphere Reserve.

S90. Ans.(c)

Sol. The Kaleshwaram Lift Irrigation Project is a multi-purpose irrigation project on the Godavari River in Kaleshwaram, Bhupalpally, Telangana, India. Currently the world's largest multi-stage lift irrigation project, its farthest upstream influence is at the confluence of the Pranhita and Godavari rivers.

S91. Ans.(d)

Sol. A cell wall is a structural layer surrounding some types of cells, just outside the cell membrane. It can be tough, flexible, and sometimes rigid. It provides the cell with both structural support and protection, and also acts as a filtering mechanism. Cell wall is present only in plant cells but not in human (animal) cells.

S92. Ans.(b)

Sol. Self-pollinations refers to the transfer of pollen from the anther of a flower to the stigma of the same flower or sometimes to that of a genetically identical flower (as of the same plant or clone).

S93. Ans.(c)

Sol. Cytokinins are a class of plant hormones that promote cell division, or cytokinesis, in plant roots and shoots. They are involved primarily in cell growth and differentiation, but also affect apical dominance, axillary bud growth, and leaf senescence.

S94. Ans.(b)

Sol. Mitochondria and Plastids have their own DNA and Ribosomes.

A mitochondrion is a double-membrane-bound organelle found in most eukaryotic organisms. Mitochondria generate most of the cell's supply of adenosine triphosphate, used as a source of chemical energy.

The plastid is a membrane-bound organelle found in the cells of plants, algae, and some other eukaryotic organisms. They are considered to be intracellular endosymbiotic Cyanobacteria. Examples include chloroplasts, chromoplasts, and leucoplasts.

S95. Ans.(d)

Sol. Osmosis is the spontaneous net movement or diffusion of solvent molecules through a selectively permeable membrane from a region of high water potential to a region of low water potential, in the direction that tends to equalize the solute concentrations on the two sides.

S96. Ans.(b)

Sol. Intercropping is a multiple cropping practice that involves growing two or more crops in proximity. In other words, intercropping is the cultivation of two or more crops simultaneously on the same field.

S97. Ans.(d)

Sol. The brown fumes liberated when lead nitrate is heated are of Nitrogen dioxide. This is the thermal decomposition reaction. The balanced chemical equation for this reaction is the following:

$2Pb(NO_3)_2 = 2PbO + 4NO_2 + O_2$

S98. Ans.(a)

Sol. The silver article turns black when kept in the air because silver reacts with sulphur compounds such as hydrogen sulphide (H_2S) present in the air. This corrosion of silver is known as tarnishing of silver.

S99. Ans.(b)

Sol. Sodium is a highly reactive metal and reacts vigorously with the oxygen, carbon dioxide, and moisture present in the air such that it may even cause a fire. To prevent this explosive reaction, Sodium is kept immersed in kerosene because Sodium doesn't react with kerosene.

S100. Ans.(c)

Sol. Mass of solute = 20 gm

Mass of solvent = 180 gm

So, mass of solution = 20 + 180 = 200 gm

Thus, required concentration = $\frac{20}{200} \times 100 = 10\%$

S101. Ans.(d)

Sol. Iodine is a chemical element with the symbol I and atomic number 53. The heaviest of the stable halogens, it exists as a semi-lustrous, non-metallic solid at standard conditions that melts to form a deep violet liquid at 114 degrees Celsius, and boils to a violet gas at 184 degrees Celsius.

S102. Ans.(b)

Sol. Gold is a chemical element with the symbol 'Au' and atomic number 79, making it one of the higher atomic number elements that occur naturally. In a pure form, it is a bright, slightly reddish yellow, dense, soft, malleable, and ductile metal. Chemically, gold is a transition metal and a group 11 element.

S103. Ans.(d)

Sol. Electrical resistivity is a fundamental property of a material that measures how strongly it resists electric current. A low resistivity indicates a material that readily allows electric current. Resistivity is commonly represented by the Greek letter ρ. The SI unit of electrical resistivity is the ohm-meter.

It is independent of physical shape and size of metal, but is dependent on temperature of metals.

S104. Ans.(c)

Sol. Fission is the division of a single entity into two or more parts and the regeneration of those parts to separate entities resembling the original. It is related with the transformation of heavier nuclei into smaller nuclei.

S105. Ans.(c)

Sol. As our body cells contain various ions like sodium ion , potassium ion , chloride ion etc which have the tendency to conduct electricity and this makes our body good conductor of electricity.

S106. Ans.(c)

Sol. A plane mirror is a mirror with a flat reflective surface. For light rays striking a plane mirror, the angle of reflection equals the angle of incidence. The angle of the incidence is the angle between the incident ray and the surface normal. A non-spherical shining spoon can generally be considered as a plane mirror.

S107. Ans.(c)

Sol. James Prescott Joule was an English physicist, mathematician and brewer, born in Salford, Lancashire. Joule studied the nature of heat, and discovered its relationship to mechanical work. This led to the law of conservation of energy, which in turn led to the development of the first law of thermodynamics. He is a pioneer in discovering the heating effect of electric current.

S108. Ans.(d)

Sol. Faraday's law of electromagnetic induction, also known as Faraday's law, is the basic law of electromagnetism which helps us to predict how a magnetic field would interact with an electric circuit to produce an electromotive force (EMF). This phenomenon is known as electromagnetic induction.

This law does not give the direction of magnetic field.

S109. Ans.(d)

Sol. A virus does not use biochemical pathways which can be blocked by an antibiotic. But a vaccine can boost an immune system to fight the virus. This is the reason why an antibiotic is not useful against a virus whereas a vaccine is.

S110. Ans.(a)

Sol. African Trypanosomiasis, also known as "sleeping sickness", is caused by microscopic parasites of the species Trypanosoma brucei. It is transmitted by the tsetse fly (Glossina species), which is found only in sub-Saharan Africa.

S111. Ans.(d)

Sol. A planarian is one of many flatworms of the traditional class Turbellaria. It usually describes free-living flatworms of the order Tricladida, although this common name is also used for a wide number of free-living platyhelminthes.

S112. Ans.(d)

Sol. Cardiac muscle cells form a highly branched cellular network in the heart. They are connected end to end by intercalated disks and are organized into layers of myocardial tissue that are wrapped around the chambers of the heart. They are cylindrical, branched and uninucleate.

S113. Ans.(c)

Sol. There are more than 10 acids that are present in tomatoes.Some of the common acids are Citric acid, Ascorbic acid, Malic acid and Oxalic acid. Oxalic acid is found in abundance in tomatoes.

S114. Ans.(b)

Sol. Soda-acid fire extinguishers comprises of sodium bicarbonate and sulphuric acid. It is the most efficient house-hold fire extinguisher. It consists of a strong iron vessel with a side discharge nozzle. The iron vessel is filled with a sodium bicarbonate solution.

S115. Ans.(a)

Sol. Sodium carbonate, $Na_2CO_3 \cdot 10H_2O$, (also known as washing soda, soda ash and soda crystals) is the inorganic compound with the formula Na_2CO_3. All forms are white, odourless, water-soluble salts that yield moderately alkaline solutions in water. It is produced in large quantities from sodium chloride and limestone by the Solvay process.

Some common applications of sodium carbonate (or washing soda) include:

- used as a cleansing agent for domestic purposes like washing clothes
- used for removing temporary and permanent hardness of water
- used in the manufacture of glass, soap and paper
- used in the manufacture of sodium compounds like borax.

S116. Ans.(d)

Sol. Calcium oxide reacts vigorously with water to produce slaked lime whose solution is used for white-washing walls. This slaked lime reacts with Carbon dioxide (CO_2) in air to form a thin layer of Calcium Carbonate ($CaCO_3$) to give a shiny finish.

S117. Ans.(b)

Sol. The primary rainbow forms between about 40° and 42° from the antisolar point. The light path involves refraction and a single reflection inside the water droplet. If the drops are large, 1 millimeter or more in diameter, red, green, and violet are bright but there is little blue.

S118. Ans.(d)

Sol. An object undergoing uniform circular motion is moving with a constant speed. Nonetheless, it is accelerating due to its change in direction. The direction of the acceleration is inwards and perpendicular to the velocity.

S119. Ans.(c)

Sol. The weight of an object is due to the force that it exerts on the ground. Weight is a vector quantity. The unit of measurement for weight is that of force, which in the International System of Units (SI) is the newton. For example, an object with a mass of one kilogram has a weight of about 9.8 newtons on the surface of the Earth, and about one-sixth as much on the Moon.

S120. Ans.(b)

Sol. A nanoparticle is a small particle that ranges between 1 to 100 nanometres in size. Undetectable by the human eye, nanoparticles can exhibit significantly different physical and chemical properties to their larger material counterparts.