

1. A concave lens always forms an image which is
(SSC CGL 1st Sit. 2010)
(a) real and erect (b) virtual and erect
(c) real and inverted (d) virtual and inverted
2. A vitamin requires cobalt for its activity. The vitamin is
(SSC CGL 1st Sit. 2010)
(a) Vitamin B₁₂ (b) Vitamin D
(c) Vitamin B₂ (d) Vitamin A
3. One of the constituents of tear gas is
(a) Ethane (b) Ethanol
(c) Ether (d) Chloropicrin
4. The modulus of rigidity is the ratio of
(SSC CGL 1st Sit. 2010)
(a) longitudinal stress to longitudinal strain
(b) Volume stress to volume strain
(c) shearing stress to shearing strain
(d) tensile stress to tensile strain
5. The propagation of sound waves in a gas involves
(SSC CGL 1st Sit. 2010)
(a) adiabatic compression and refraction
(b) isothermal compression and rarefaction
(c) isochoric compression and rarefaction
(d) isobaric compression and rarefaction
6. An atomic clock is based on transitions in
(SSC CGL 1st Sit. 2010)
(a) Sodium (b) Caesium
(c) Magnesium (d) Aluminium
7. Plasma membrane in eukaryotic cell is made up of
(SSC CGL 1st Sit. 2010)
(a) Phospholipid (b) Lipoprotein
(c) Phospholipo-protein (d) Phospho-protein
8. Which one of the following is also called the 'power house' of the cell?
(SSC CGL 1st Sit. 2010)
(a) Golgi body (b) Mitochondrion
(c) Ribosome (d) Lysosome
9. What is the chemical name of vinegar?
(SSC CGL 1st Sit. 2010)
(a) Citric acid (b) Acetic acid
(c) Pyruvic acid (d) Malic acid
10. Which of the following is not a property of heavy water?
(SSC CGL 1st Sit. 2010)
(a) Boiling point of heavy water is lower than that of ordinary water
(b) Density of heavy water is higher than that of ordinary water
(c) Freezing point of heavy water is higher than that of ordinary water
(d) It produces corrosion
11. In which of the following processes energy is released?
(SSC CGL 1st Sit. 2010)
(a) Respiration (b) Photosynthesis
(c) Ingestion (d) Absorption
12. Animals living in the tree trunks are known as
(SSC CGL 1st Sit. 2010)
(a) Arboreal (b) Volant
(c) Amphibious (d) Aquatic
13. In input frequency of a full wave rectifier be n , then the output frequency would be
(SSC CGL 1st Sit. 2010)
(a) $\frac{n}{2}$ (b) n
(c) $\frac{3n}{2}$ (d) $2n$
14. Heat transfer horizontally within the atmosphere is called
(SSC CGL 1st Sit. 2010)
(a) Conduction (b) Convection
(c) Absorption (d) Advection
15. Noise is measured in
(SSC CGL 1st Sit. 2010)
(a) Watt (b) REM
(c) Centigrade (d) Decibel
16. The bats can fly in the dark because
(SSC CGL 1st Sit. 2010)
(a) they can see the objects in darkness
(b) they have weak legs and are likely to be attacked by predators
(c) they generate flashes of light
(d) they generate ultrasonic sound waves
17. What changes will happen to a ball of ice and water kept at exactly zero degree Celsius?
(SSC CGL 1st Sit. 2010)
(a) All ice will melt
(b) All water will become ice
(c) No change will happen
(d) Only some ice will melt
18. The art and science of map making is called
(SSC CGL 2nd Sit. 2010)
(a) Remote Sensing (b) Cartography
(c) Photogrammetry (d) Mapping
19. Silver halides are used in photographic plates because they are
(SSC CGL 2nd Sit. 2010)
(a) oxidised in air (b) soluble in hyposolution
(c) reduced by light (d) totally colourless

20. Tetra ethyle lead (TEL) is (SSC CGL 2nd Sit. 2010)
 (a) a catalyst used in burning fossil fuel
 (b) an antioxidant
 (c) a reductant
 (d) an antiknock compound
21. Curie point is the temperature at which (SSC CGL 2nd Sit. 2010)
 (a) Matter becomes radioactive
 (b) A metal loses magnetic properties
 (c) A metal loses conductivity
 (d) Transmutation of metal occurs.
22. The isotope used for the production of atomic energy is (SSC CGL 2nd Sit. 2010)
 (a) U-235 (b) U-238
 (c) U-234 (d) U-236
23. The acceleration due to gravity at the equator (SSC CGL 2nd Sit. 2010)
 (a) is less than that at the poles
 (b) is greater than that at the poles
 (c) is equal to that at the poles
 (d) does not depend on the earth's centripetal acceleration
24. Which of the following is not a nucleon ? (SSC CGL 2nd Sit. 2010)
 (a) Proton (b) Neutron
 (c) Electron (d) Positron
25. The material used in the manufacture of lead pencil is (SSC CGL 2nd Sit. 2010)
 (a) Graphite (b) Lead
 (c) Carbon (d) Mica
26. Angle of friction and angle of repose are (SSC CGL 2nd Sit. 2010)
 (a) equal to each other
 (b) not equal to each other
 (c) proportional to each other
 (d) None of the above
27. What happens to a person who receives the wrong type of blood? (SSC CGL 2nd Sit. 2010)
 (a) All the arteries constrict
 (b) All the arteries dialate
 (c) The RBCs agglutinate
 (d) The spleen and lymph nodes deteriorate
28. If all bullets could not be removed from gun shot injury of a man, it may cause poisoning by (SSC CGL 2nd Sit. 2010)
 (a) Mercury (b) Lead
 (c) Iron (d) Arsenic
29. Ringworm is a disease. (SSC CGL 2nd Sit. 2010)
 (a) Bacterial (b) Protozoan
 (c) Viral (d) Fungal
30. Pituitary gland is situated in (SSC CGL 2nd Sit. 2010)
 (a) the base of the heart
 (b) the base of the brain
 (c) the neck
 (d) the abdomen
31. Saliva helps in the digestion of (SSC CGL 1st Sit. 2011)
 (a) Fats (b) Starch
 (c) Proteins (d) Vitamins
32. The longest bone in the human body is (SSC CGL 1st Sit. 2011)
 (a) Ulna (b) Humerus
 (c) Femur (d) Tibia
33. The time period of a pendulum when taken to the Moon would (SSC CGL 1st Sit. 2011)
 (a) remain the same (b) decrease
 (c) become zero (d) increase
34. The function of ball bearings in a wheel is (SSC CGL 1st Sit. 2011)
 (a) to increase friction
 (b) to convert kinetic friction into rolling friction
 (c) to convert static friction into kinetic friction
 (d) just for convenience
35. 'Shock-absorbers' are usually made of steel as it (SSC CGL 1st Sit. 2011)
 (a) is not brittle
 (b) has lower elasticity
 (c) has higher elasticity
 (d) has no ductile property
36. Which of the following could be used as fuel in propellant of rockets? (SSC CGL 1st Sit. 2011)
 (a) Liquid Hydrogen + Liquid Nitrogen
 (b) Liquid Oxygen + Liquid Argon
 (c) Liquid Nitrogen + Liquid Oxygen
 (d) Liquid Hydrogen + Liquid Oxygen
37. The addition of gypsum to portland cement helps in (SSC CGL 1st Sit. 2011)
 (a) increasing the strength of cement
 (b) rapid setting of cement
 (c) preventing rapid setting of cement
 (d) reduction in the cost of cement
38. White lung disease is prevalent among the workers of (SSC CGL 1st Sit. 2011)
 (a) Paper industry (b) Cement industry
 (c) Cotton industry (d) Pesticide industry
39. Iodoform is used as an (SSC CGL 1st Sit. 2011)
 (a) antipyretic (b) analgesic
 (c) antiseptic (d) anaesthetic
40. An artificial ecosystem is represented by (SSC CGL 1st Sit. 2011)
 (a) pisciculture tank (b) agricultural land
 (c) zoo (d) aquarium
41. The constituent of automobile exhaust that can cause cancer is (SSC CGL 1st Sit. 2011)
 (a) Oxides of nitrogen
 (b) Carbon monoxide
 (c) Polycyclic hydrocarbons
 (d) Lead
42. The optimum dissolved oxygen level (in mg/litre) required for survival of aquatic organisms is (SSC CGL 1st Sit. 2011)
 (a) 4-6 (b) 2-4
 (c) 8-10 (d) 12-16

43. The world's only floating national park is situated in
(SSC CGL 1st Sit. 2011)
(a) Manipur (b) Kuala Lumpur
(c) Bilaspur (d) Dispur
44. Who invented vaccination for 'Small Pox'?
(SSC CGL 2nd Sit. 2011)
(a) Sir Fredrick Grant Banting
(b) Sir Alexander Fleming
(c) Edward Jenner
(d) Louis Pasteur
45. BT seed is associated with (SSC CGL 2nd Sit. 2011)
(a) Rice (b) Wheat
(c) Cotton (d) Oil seeds
46. Which of the following minerals is found in Monazite sand?
(SSC CGL 2nd Sit. 2011)
(a) Potassium (b) Uranium
(c) Thorium (d) Sodium
47. In coriander, the useful parts are (SSC CGL 2nd Sit. 2011)
(a) roots & leaves
(b) leaves & flowers
(c) leaves & dried fruits
(d) flowers & dried fruits
48. Which plant is called Herbal Indian Doctor?
(SSC CGL 2nd Sit. 2011)
(a) Amla (b) Mango
(c) Neem (d) Tulsi
49. The pH of human blood is (SSC CGL 2nd Sit. 2011)
(a) 7.2 (b) 7.8
(c) 6.6 (d) 7.4
50. Which amongst the following is the largest endocrine gland in the body?
(SSC CGL 2nd Sit. 2011)
(a) Thyroid (b) Parathyroid
(c) Adrenal (d) Pituitary
51. Which amongst the following is the largest mammal?
(SSC CGL 2nd Sit. 2011)
(a) Elephant (b) Whale
(c) Dinosaur (d) Rhinoceros
52. Which part is modified as the tusk of elephant?
(SSC CGL 2nd Sit. 2011)
(a) Canine (b) Premolar
(c) Second incisor (d) Molar
53. Optical fibres are based on the phenomenon of
(SSC CGL 2nd Sit. 2011)
(a) Interference
(b) Dispersion
(c) Diffraction
(d) Total Internal Reflection
54. Now-a-days yellow lamps are frequently used as street lights. Which of the following gases is used in these lamps?
(SSC CGL 2nd Sit. 2011)
(a) Sodium (b) Neon
(c) Hydrogen (d) Nitrogen
55. 'Mirage' is an example of
(SSC CGL 2nd Sit. 2011)
(c) refraction and total internal reflection of light
(d) dispersion of light only
56. The phenomenon of light associated with the appearance of blue colour of the sky is (SSC CGL 2nd Sit. 2011)
(a) Interference (b) Reflection
(c) Refraction (d) Scattering
57. Lens is made up of (SSC CGL 2nd Sit. 2011)
(a) Pyrex glass (b) Flint glass
(c) Ordinary glass (d) Cobalt glass
58. The element used for vulcanizing rubber is
(SSC CGL 2nd Sit. 2011)
(a) Sulphur (b) Bromine
(c) Silicon (d) Phosphorus
59. Which of the following is responsible for the extra strength of pyrex glass?
(SSC CGL 2nd Sit. 2011)
(a) Potassium Carbonate (b) Lead Oxide
(c) Borax (d) Ferric Oxide
60. The noble gas used for the treatment of cancer is
(SSC CGL 2nd Sit. 2011)
(a) Helium (b) Argon
(c) Krypton (d) Radon
61. Fertilization occurs normally in the
(SSC CGL 1st Sit. 2012)
(a) Cervix (b) Vagina
(c) Fallopian tube (d) Uterus
62. People consuming alcohol in heavy quantities generally die of
(SSC CGL 1st Sit. 2012)
(a) liver or stomach cancer
(b) weakening of heart muscles leading to cardiac arrest
(c) blood cancer
(d) Cirrhosis
63. The organisms at the base of the grazing food-chain are
(SSC CGL 1st Sit. 2012)
(a) Carnivores (b) Decomposers
(c) Producers (d) Herbivores
64. The mass of 10 moles of water is (SSC CGL 1st Sit. 2012)
(a) 90 g (b) 45 g
(c) 18 g (d) 180 g
65. Vitamin A is rich in (SSC CGL 1st Sit. 2012)
(a) Carrot (b) Lime
(c) Beans (d) Rice
66. The high boiling point of water compared to hydrogen sulphide or hydrogen chloride is due to
(SSC CGL 1st Sit. 2012)
(a) Dipole insulation
(b) Van der Waal's attraction
(c) Polar covalent bonding
(d) Hydrogen bonding
67. Which of the following determines the chemical properties of an element?
(SSC CGL 1st Sit. 2012)
(a) Number of electrons
(b) Number of neutrons
(c) Number of protons

68. 'Lumen' is the unit of (SSC CGL 1st Sit. 2012)
 (a) Illuminance (b) Brightness
 (c) Luminous flux (d) Luminous intensity
69. Which one of the following forces is a 'dissipative force'? (SSC CGL 1st Sit. 2012)
 (a) Electrostatic force (b) Magnetic force
 (c) Gravitational force (d) Frictional force
70. If a resistive wire is elongated, its resistance (SSC CGL 1st Sit. 2012)
 (a) decreases (b) remains constant
 (c) increases (d) All of the above
71. If a magnet has a third pole, then the third pole is called (SSC CGL 1st Sit. 2012)
 (a) defective pole (b) consequent pole
 (c) extra pole (d) arbitrary pole
72. The sweet taste of fruits is due to (SSC CGL 1st Sit. 2012)
 (a) Lactose (b) Fructose
 (c) Maltose (d) Ribose
73. Which is NOT a correct statement? (SSC CGL 2nd Sit. 2012)
 (a) Phenols are acidic
 (b) In benzene all the atoms lie in one plane
 (c) Methylated spirit contains only methanol
 (d) Dilute solutions contain less amount of solute
74. The infective stage of Malaria is (SSC CGL 2nd Sit. 2012)
 (a) Gametocyte (b) Ring stage
 (c) Sporozoite (d) Merozoite
75. Which of the following is meant for the ex-situ conservation of various species? (SSC CGL 2nd Sit. 2012)
 (a) Sperm bank (b) Blood bank
 (c) Germplasm bank (d) Herbarium
76. An algae type ocean deposit is (SSC CGL 2nd Sit. 2012)
 (a) Neritic remains (b) Diatom Ooze
 (c) Pteropod Ooze (d) Pelagic deposits
77. Photosynthetic vesicle found in bacteria is called a (SSC CGL 2nd Sit. 2012)
 (a) Mesosome (b) Chromatophore
 (c) Genophore (d) Pneumatophore
78. What type of mirror is used in a view finding mirror of a vehicle? (SSC CGL 2nd Sit. 2012)
 (a) Convex mirror (b) Plane mirror
 (c) Concave mirror (d) Paraboloidal mirror
79. Pyrolygneous acid obtained from wood contains (SSC CGL 2nd Sit. 2012)
 (a) 10% Formaldehyde (b) 10% Acetic acid
 (c) 10% Formic acid (d) 10% ethanol
80. Union Carbide India Ltd. manufactured essentially (SSC CGL 2nd Sit. 2012)
 (a) Heavy water (b) Petrochemicals
 (c) Fertilizers (d) Leather goods
81. Drying oils contain a fairly large proportion of (SSC CGL 2nd Sit. 2012)
 (a) Unsaturated fatty acids
 (b) Fats
 (c) Proteins
 (d) Saturated fatty acids
82. The red, orange and yellow colours of leaves are due to (SSC CGL 2nd Sit. 2012)
 (a) Carotenoids (b) Aldehydes
 (c) Tannins (d) Lignins
83. We receive sunlight on earth surface. What type of light beams are these? (SSC CGL 2nd Sit. 2012)
 (a) Random (b) Parallel
 (c) Converging (d) Diverging
84. Polar-bears hold cures for (SSC CGL 2nd Sit. 2012)
 (a) Type II diabetes (b) Osteoporosis
 (c) Breast-cancer (d) Kidney failure
85. Which colour/colours of light has the highest velocity through vacuum? (SSC CGL 2nd Sit. 2012)
 (a) Blue (b) Red
 (c) Green (d) All of the above
86. The ultimate source of energy in a hydroelectric power station is (SSC CGL 2nd Sit. 2012)
 (a) solar energy
 (b) the potential energy of water
 (c) the kinetic energy of water
 (d) the electro-chemical energy of water
87. The disease that kills more people than lung cancer as a consequence of air pollution is (SSC CGL 2nd Sit. 2012)
 (a) chronic bronchitis (b) asthma
 (c) emphysema (d) heart attack
88. Which of the following pairs is correctly matched? (SSC CGL 2nd Sit. 2012)
 (a) Milk of lime–sodium sulphate
 (b) Glauber's salt–calcium sulphate
 (c) Salt petre–potassium nitrate
 (d) Gypsum–calcium hydroxide
89. 'Eutrophication' is associated with (SSC CGL 1st Sit. 2012)
 (a) nitrates and phosphates
 (b) sewage
 (c) silt load
 (d) vegetation
90. The best way to maintain a natural equilibrium between the pest and predator is by using (SSC CGL 1st Sit. 2012)
 (a) insecticides (b) biological control
 (c) pesticides (d) herbicides
91. 'Dry ice' is the condensed form of (SSC CGL 1st Sit. 2012)
 (a) sulphur tri-oxide
 (b) carbon dioxide
 (c) highly cooled water
 (d) oxygen
92. The materials which are strongly attracted by magnet are called (SSC CGL 1st Sit. 2012)
 (a) ferro-magnetic substances
 (b) universal substances
 (c) para-magnetic substances
 (d) dia-magnetic substances

93. In a pin-hole camera, we usually get
(SSC CGL 1st Sit. 2012)
- (a) erect impression (b) inverted impression
(c) erect image (d) inverted image
94. What happens to the kinetic energy of gas molecules with rise of temperature?
(SSC CGL 1st Sit. 2012)
- (a) Remains same (b) Fluctuates
(c) Increases (d) Decreases
95. The sex of a child is determined (SSC CGL 1st Sit. 2012)
- (a) six to seven weeks after conception
(b) in the third month of pregnancy
(c) at the time of sperm's entry
(d) at the time of fertilisation of ovum
96. The food chain of the ecosystem is maintained by the activities of (SSC CGL 1st Sit. 2012)
- (a) Decomposers (b) Predators
(c) Producers (d) Consumers
97. Which one of these primates is closest to the modern man?
(SSC CGL 1st Sit. 2012)
- (a) Orangutan (b) Chimpanzee
(c) Gorilla (d) Gibbon
98. A gram of fertile agricultural soil may contain bacteria upto
(SSC CGL 1st Sit. 2012)
- (a) five million
(b) one billion and above
(c) fifty thousand
(d) five hundred thousand
99. A reduction reaction involves (SSC CGL 1st Sit. 2012)
- (a) addition of oxygen
(b) addition of nitrogen
(c) addition of hydrogen
(d) None of the above
100. An antiknock for petrol is (SSC CGL 1st Sit. 2012)
- (a) sodium hydroxide (b) ethanol
(c) sodium benzoate (d) lead tetraethyl
101. Which one of the following pairs is not correctly matched?
(SSC CGL 1st Sit. 2012)
- (a) Vitamin C - Scurvy
(b) Vitamin K - Clotting of blood
(c) Vitamin A - Night blindness
(d) Vitamin E - Rickets
102. The fibre that will yield ammonia when destructively distilled is
(SSC CGL 1st Sit. 2012)
- (a) wool (b) cellulose acetate
(c) cotton (d) silk
103. During respiration, energy is derived from
(SSC CGL 1st Sit. 2012)
- (a) ATP (b) chlorophyll
(c) RNA (d) DNA
104. When was a global network of daily temperature records created?
(SSC CGL 1st Sit. 2012)
- (a) Around 1890 (b) Around 1920
(c) Around 1800 (d) Around 1850
105. Sex hormones are (SSC CGL 1st Sit. 2012)
- (a) vitamins (b) alkanes
(c) carbohydrates (d) steroids
106. A form of condensation that reduces visibility and causes breathing problems is (SSC CGL 2nd Sit. 2012)
- (a) dew (b) frost
(c) smog (d) mist
107. Green glands are associated with (SSC CGL 2nd Sit. 2012)
- (a) reproduction (b) excretion
(c) respiration (d) digestion
108. During respiration, the gases enter into the blood and leave the same by the process of (SSC CGL 2nd Sit. 2012)
- (a) active transport
(b) diffusion
(c) diffusion and active transport
(d) osmosis
109. Heart is devoid of (SSC CGL 2nd Sit. 2012)
- (a) cardiac muscle (b) involuntary muscle
(c) voluntary muscle (d) smooth muscle
110. The soil salinity is measured by (SSC CGL 2nd Sit. 2012)
- (a) conductivity meter (b) hygrometer
(c) psychrometer (d) auxanometer
111. Which of the following is a fungal disease?
(SSC CGL 2nd Sit. 2012)
- (a) Leucoderma (b) Eczema
(c) Eiworm (d) Elephantiasis
112. Chickenpox is caused by (SSC CGL 2nd Sit. 2012)
- (a) DNA virus (b) Variola virus
(c) Streptococcus (d) Vibrio cholerae
113. Instruments can be shielded from outside magnetic effects by surrounding them with (SSC CGL 2nd Sit. 2012)
- (a) iron shield (b) rubber shield
(c) brass shield (d) glass shield
114. Find the odd one. (SSC CGL 2nd Sit. 2012)
- (a) Marble (b) Chalk
(c) Limestone (d) Slaked lime
115. The following is a pseudo-force: (SSC CGL 2nd Sit. 2012)
- (a) Centrepetal force
(b) Centrifugal reaction force
(c) Centrifugal force
(d) Strong nuclear force
116. The hydraulic brake used in automobiles is a direct application of (SSC CGL 2nd Sit. 2012)
- (a) Archimedes' principle
(b) Torricellian law
(c) Bernoulli's Theorem
(d) Pascal's law
117. Amides can be converted to amines by the reaction named (SSC CGL 2nd Sit. 2012)
- (a) Perkin (b) Claisen
(c) Hoffman (d) Clemmensen
118. The base used as an antacid is (SSC CGL 2nd Sit. 2012)
- (a) calcium hydroxide
(b) barium hydroxide
(c) magnesium hydroxide
(d) silver hydroxide

119. A process which is not helpful in the prevention of rusting of iron is **(SSC CGL 2nd Sit. 2012)**
 (a) annealing (b) applying grease
 (c) galvanising (d) painting
120. Denatured alcohol **(SSC CGL 2nd Sit. 2012)**
 (a) is a form of alcohol
 (b) is unfit for drinking as it contains poisonous substances
 (c) contains coloured impurities
 (d) is sweet to taste
121. Phenolics as pollutants can be removed from waste water by use of **(SSC CGL 2nd Sit. 2012)**
 (a) ion exchange resin technique
 (b) electrolyte decomposition technique
 (c) reverse osmosis method
 (d) polymeric adsorbents
122. The stability of a pond ecosystem depends on **(SSC CGL 2nd Sit. 2012)**
 (a) micro-organisms and fishes
 (b) micro-organisms and zoo planktons
 (c) fishes and reptiles
 (d) producers and consumers
123. Supersonic air planes create a shock wave called **(SSC CGL 2nd Sit. 2012)**
 (a) transition wave (b) ultrasound
 (c) transverse wave (d) sonic boom
124. The danger signals are red while the eye is more sensitive to yellow because **(SSC CGL 2nd Sit. 2012)**
 (a) absorption in red is less than yellow and hence red is visible from a distance
 (b) scattering in yellow light is less than red
 (c) the wavelength of red light is more than yellow light
 (d) none of the above reasons
125. Transboundary pollution (or) Acid rain is caused by **(SSC CGL 1st Sit. 2013)**
 (a) nitrogen oxide and sulphur dioxide
 (b) carbon monoxide
 (c) carbon dioxide
 (d) hydrocarbon
126. Which of the following is an endemic species? **(SSC CGL 1st Sit. 2013)**
 (a) Nicobar pigeon (b) Horn bill
 (c) Indian Rhino (d) Pink head duck
127. The natural disaster in which carbon-di-oxide suddenly erupts from a deep lake water is known as _____ **(SSC CGL 1st Sit. 2013)**
 (a) Limnic (b) Lacaustrine
 (c) Fluvial (d) Glacial
128. Blood group was discovered by
 (a) Alexander Fleming (b) William Harvey
 (c) Landsteiner (d) Pavlov
129. Pick out the correct match : **(SSC CGL 1st Sit. 2013)**
 (a) Egg yolk Protein and Fat
 (b) Fleshy foods Calcium and Protein
 (c) Fish Starch and Vitamin
 (d) Milk Fibre and Minerals
130. Blood is a **(SSC CGL 1st Sit. 2013)**
 (a) reproductive tissue (b) connective tissue
 (c) epithelial tissue (d) muscular tissue
131. DPT vaccine is administered to prevent diseases like **(SSC CGL 1st Sit. 2013)**
 (a) Diphtheria, Pertussis and Typhoid
 (b) Diphtheria, Pertussis and Tetanus
 (c) Dengue, Pertussis and Typhoid
 (d) Dengue, Polio and Tetanus
132. The disease that has been eradicated from the world, is : **(SSC CGL 1st Sit. 2013)**
 (a) Small pox (b) Leprosy
 (c) Poliomyelitis (d) Chicken pox
133. In dicots the pollen grains possess : **(SSC CGL 1st Sit. 2013)**
 (a) one germ pore (b) two germ pores
 (c) three germ pores (d) four germ pores
134. 'Farad' is the unit of : **(SSC CGL 1st Sit. 2013)**
 (a) Conductnce (b) Capacitance
 (c) Inductance (d) Resistance
135. Steel is more elastic than rubber because it : **(SSC CGL 1st Sit. 2013)**
 (a) is harder than rubber
 (b) requires larger deforming force
 (c) is never deformed
 (d) is deformed very easily
136. Identify the odd term amongst the following group : **(SSC CGL 1st Sit. 2013)**
 (a) Coaxial cable (b) Optical fibre
 (c) Twisted pair wire (d) Microwaves
137. Stains of rust on clothes can be removed by **(SSC CGL 1st Sit. 2013)**
 (a) H₂O₂ (b) Oxalic acid
 (c) Petrol (d) Alcohol
138. The percentage of nitrogen present in ammonium sulphate is : **(SSC CGL 1st Sit. 2013)**
 (a) 18% (b) 21%
 (c) 25% (d) 30.5%
139. Ethanol containing 5% water is known as **(SSC CGL 1st Sit. 2013)**
 (a) Absolute alcohol (b) Dilute alcohol
 (c) Power alcohol (d) Rectified spirit
140. The hormone used as an oral contraceptive is **(SSC CGL 1st Sit. 2013)**
 (a) Aldosterone (b) Cortisone
 (c) Progesterone (d) Testosterone
141. Expand the term IPCC: **(SSC CGL 1st Sit. 2013)**
 (a) International Pollution Control Council
 (b) International Panel of Climate Control
 (c) Interim Panel of Climate Change
 (d) Intergovernmental Panel on Climate Change
142. Acceptable "Noise Pollution Level" in India range between: **(SSC CGL 1st Sit. 2013)**
 (a) 10-15 dec (b) 16-35 dec
 (c) 40-45 dec (d) 70-100 dec

143. Endosulfan spray on cashew crop resulted in the pollution to the tune of tragedy in : **(SSC CGL 1st Sit. 2013)**
 (a) Tamil Nadu (b) Kerala
 (c) Andhra Pradesh (d) Karnataka
144. Hypothermia occurs due to loss of excessive heat from body due to sudden low body temperature in : **(SSC CGL 1st Sit. 2013)**
 (a) Snakes (b) Frogs
 (c) Human beings (d) Lizards
145. Solids which conduct electricity at higher temperature but not at lower temperature are called **(SSC CGL 2nd Sit. 2013)**
 (a) super-conductor (d) metallic-conductor
 (c) semi-conductor (d) insulator
146. Which one of the following has greatest mass? **(SSC CGL 2nd Sit. 2013)**
 (a) electron (d) proton
 (c) neutron (d) hydrogen nucleus
147. A television channel is characterised by **(SSC CGL 2nd Sit. 2013)**
 (a) frequency of transmitted signal
 (b) velocity of transmitted signal
 (c) physical dimension of television screen
 (d) size of picture tube
148. The density of water is 1 g/cc. This is strictly valid at **(SSC CGL 2nd Sit. 2013)**
 (a) 0°C (b) 4°C
 (c) 25°C (d) 100°C
149. The process of photosynthesis involves conversion of **(SSC CGL 2nd Sit. 2013)**
 (a) chemical energy into radiant energy
 (b) chemical energy into mechanical energy
 (c) solar energy into chemical energy
 (d) mechanical energy into solar energy
150. A colloidal system in which a liquid is dispersed in a liquid is called **(SSC CGL 2nd Sit. 2013)**
 (a) gel (b) emulsion
 (c) sol (d) precipitate
151. The antiseptic compound present in dettol is **(SSC CGL 2nd Sit. 2013)**
 (a) Iodine (b) Chloroxylenol
 (c) Biothional (d) Cresol
152. Genomic (DNA) studies in camel have been completed recently by the scientists of **(SSC CGL 2nd Sit. 2013)**
 (a) South Africa (b) India
 (c) China (d) Pakistan
153. Air quality depicting PM 2.5 is more hazardous to **(SSC CGL 2nd Sit. 2013)**
 (a) Archaeological Monuments
 (b) National Parks
 (c) Botanical Gardens
 (d) Old Men and Women
154. Piped Natural Gas (PNG) is used for **(SSC CGL 2nd Sit. 2013)**
 (a) mining (b) welding
 (c) anaesthesia (d) cooking
155. Greenpark Stadium is in **(SSC CGL 2nd Sit. 2013)**
 (a) Bengaluru (b) Dehradun
 (c) Chandigarh (d) Kanpur
156. Which of the following is an endangered species? **(SSC CGL 2nd Sit. 2013)**
 (a) Black buck (b) Blue sheep
 (c) Gangetic dolphin (d) Mithun
157. Of the following man-made disasters, which is socially induced? **(SSC CGL 2nd Sit. 2013)**
 (a) Debris Avalanche (b) Salt Water Intrusion
 (c) Arson (d) Ozone depletion
158. Which one of the following endocrine gland is situated in the neck? **(SSC CGL 2nd Sit. 2013)**
 (a) Pancreas (b) Thyroid
 (c) Pituitary (d) Adrenals
159. The seat of intelligence is situated in the **(SSC CGL 2nd Sit. 2013)**
 (a) cerebrum (b) cerebellum
 (c) medulla (d) thalamus
160. What is the Normal Blood Volume in human adult? **(SSC CGL 2nd Sit. 2013)**
 (a) One litre (b) Three litres
 (c) Five litres (d) Seven litres
161. The fasting blood glucose level in adults in mg/100 ml is **(SSC CGL 2nd Sit. 2013)**
 (a) 200 (b) 160
 (c) 100 (d) 60
162. Entomology is the study of **(SSC CGL 2nd Sit. 2013)**
 (a) birds (b) insects
 (c) fossils (d) fungi
163. Exobiology is a science that deals with **(SSC CGL 2nd Sit. 2013)**
 (a) extinct forms
 (b) life in other planets
 (c) life in the outer space
 (d) life in marine habitat
164. In radio-communication, the signals emitted by transmitting antenna are reflected on **(SSC CGL 2nd Sit. 2013)**
 (a) stratosphere (b) ozonosphere
 (c) ionosphere (d) troposphere
165. Tiny marine animals which constitute limestone skeletons are called **(SSC CGL 1st Sit. 2013)**
 (a) Coral reefs (b) Diatoms
 (c) Clamitomonous (d) Foraminifera
166. Which of the following plant pigments absorbs in red and far-red region of light? **(SSC CGL 1st Sit. 2013)**
 (a) Phytochrome (b) Cryptochrome
 (c) Carotenoid (d) Chlorophyll
167. The process through which excess of light energy is dissipated in photosynthesis is known as **(SSC CGL 1st Sit. 2013)**
 (a) photolysis (b) photophosphorylation
 (c) quenching (d) scavenging
168. AIDS virus destroys **(SSC CGL 1st Sit. 2013)**
 (a) neutrophils (b) basophils
 (c) lymphocytes (d) monocytes

169. The device used for measuring the wavelength of X-rays is
(SSC CGL 1st Sit. 2013)
- Bragg Spectrometer
 - Mass Spectrometer
 - G. M. Counter
 - Cyclotron
170. Alpha particle is the nucleus of an atom of
(SSC CGL 1st Sit. 2013)
- Helium
 - Oxygen
 - Lithium
 - Hydrogen
171. Teeth and Bones acquire strength and rigidity from
(SSC CGL 1st Sit. 2013)
- Chlorine
 - Sodium
 - Calcium
 - Fluorine
172. The type of tail found in Shark is
(SSC CGL 1st Sit. 2013)
- Heterocercal
 - Diphycercal
 - Protocercal
 - Homocercal
173. The Sigmoid Colon is part of
(SSC CGL 1st Sit. 2013)
- large intestine
 - ileum
 - small intestine
 - anal canal
174. A good conductor while carrying current is
(SSC CGL 1st Sit. 2013)
- positively charged
 - electrically neutral
 - alternately charged positive and negative
 - negatively charged
175. Coating of solid waste with impervious material is known as
(SSC CGL 1st Sit. 2013)
- landfill
 - capping
 - encapsulation
 - chemical fixation
176. Ultraviolet rays can be used in water treatment as
(SSC CGL 1st Sit. 2013)
- hydrolyser
 - disinfectant
 - floculator
 - precipitator
177. Thiamidine dimer formation in DNA is caused by
(SSC CGL 1st Sit. 2013)
- β and γ -rays
 - UV-rays
 - IR-rays
 - X-rays
178. Silicone is a polymer of
(SSC CGL 1st Sit. 2013)
- Dialkyl dichloro silane
 - Silane
 - Tetraalkyl silane
 - Silicon tetrachloride
179. Which is a natural colloid?
(SSC CGL 1st Sit. 2013)
- Cane-sugar
 - Blood
 - Sodium chloride
 - Urea
180. Which one of the following does not contain Silver?
(SSC CGL 1st Sit. 2013)
- German Silver
 - Horn Silver
 - Ruby Silver
 - Lunar Caustic
181. The presence of Cobalt in Vitamin B₁₂ was revealed for the first time by
(SSC CGL 1st Sit. 2013)
- Borax-Bead test
 - Sodium Nitroprusside test
 - Hydrolysis test
 - Spectroscopy
182. Which bacterial strain developed from natural isolates by genetic manipulations can be used for treating oil spills?
(SSC CGL 1st Sit. 2013)
- Clostridium
 - Nitrosomonas
 - Pseudomonas
 - Agrobacterium
183. Reduction of nitrates to ammonia can be achieved through one of the following methods :
(SSC CGL 1st Sit. 2013)
- in alkaline medium using Devarda's alloy.
 - in neutral medium using Devarda's alloy.
 - in acidic medium using Devarda's alloy.
 - in neutral medium using Cupric oxide.
184. Grits of sewage are removed in
(SSC CGL 1st Sit. 2013)
- Grit chamber
 - Detritus tank
 - Skimming tank
 - Trickling filter
185. The most affected sulphur containing amino acid by PAN is
(SSC CGL 1st Sit. 2013)
- Cysteine
 - Methionine
 - Proline
 - Globuline
186. Which of the following has zero electron affinity?
(SSC CGL 1st Sit. 2013)
- Oxygen
 - Fluorine
 - Nitrogen
 - Neon
187. The human body's largest blood vessel is
(SSC CGL 1st Sit. 2013)
- Pulmonary artery
 - Aorta
 - Renal artery
 - Coronary artery
188. In human body, which one of the following hormones regulates blood calcium and phosphate?
(SSC CGL 1st Sit. 2013)
- Glucagon
 - Growth hormone
 - Parathyroid hormone
 - Thyroxine
189. How do most insects respire?
(SSC CGL 1st Sit. 2013)
- Through skin
 - Through gills
 - By tracheal system
 - By lungs
190. In nuclear reactions, there is conservation of
(SSC CGL 1st Sit. 2013)
- mass only
 - momentum only
 - energy only
 - mass, energy and momentum
191. When a particle and an antiparticle come in contact with each other, they
(SSC CGL 1st Sit. 2013)
- repel each other
 - annihilate each other
 - go undisturbed
 - spin about a common axis
192. Photoelectric effect is
(SSC CGL 1st Sit. 2013)
- an instantaneous process
 - delayed process
 - emission of protons
 - emission of neutrons
193. For a particle moving with a constant speed along a straight line PQ, the hodograph is
(SSC CGL 1st Sit. 2013)
- a straight line parallel to PQ
 - a straight line perpendicular to PQ
 - a point
 - a circle
194. Aluminium is obtained by the electrolysis of pure Al₂O₃ dissolved in
(SSC CGL 1st Sit. 2013)
- Bauxite
 - Cryolite
 - Feldspar
 - Alumina

195. Complete hydrolysis of cellulose gives
(SSC CGL 1st Sit. 2013)
- (a) D-fructose (b) L-glucose
(c) D-glucose (d) L-fructose
196. Each body segment of Earthworm is called
(SSC CGL 1st Sit. 2013)
- (a) Proglottid (b) Metamere
(c) Scolex (d) Rostellum
197. The pollutants which move downward with percolating ground water are called
(SSC CGL 1st Sit. 2013)
- (a) Leachates (b) Pollutates
(c) Earthites (d) Percolates
198. Lungs are located in the
(SSC CGL 1st Sit. 2013)
- (a) abdominal cavity (b) pericardial cavity
(c) peritoneal cavity (d) pleural cavity
199. Which one of the following is the ideal food for newborn babies?
(SSC CGL 1st Sit. 2013)
- (a) Water (b) Sugar
(c) Honey (d) Milk
200. Transcription means the synthesis of
(SSC CGL 1st Sit. 2013)
- (a) Lipids (b) Protein
(c) DNA (d) RNA
201. Hydrochloric acid is secreted by the cells lining the
(SSC CGL 1st Sit. 2013)
- (a) Oral cavity (b) Stomach
(c) Ileum (d) Colon
202. Emulsification is
(SSC CGL 1st Sit. 2013)
- (a) breaking fats into small globules
(b) digestion of fats
(c) absorption of fats
(d) storage of fats
203. Taxonomy is a science that deals with
(SSC CGL 1st Sit. 2013)
- (a) Morphology (b) Anatomy
(c) Classification (d) Economic uses
204. Which of the following is responsible for the working of Newton's colour disc experiment? (SSC CGL 1st Sit. 2013)
- (a) Formation of pure spectra
(b) Formation of impure spectra
(c) Persistence of vision
(d) Principle of complementary colour
205. The dimension MLT^{-2} corresponds to
(SSC CGL 1st Sit. 2013)
- (a) force (b) work done
(c) acceleration (d) velocity
206. Who is the founder of quantum theory of radiation?
(SSC CGL 1st Sit. 2013)
- (a) Einstein (b) Bohr
(c) Plank (d) S.N. Bose
207. Fiber optics cable used in communication, works on the principle of
(SSC CGL 1st Sit. 2013)
- (a) regular reflection of light
(b) diffuse reflection of light
(c) refraction of light
(d) total internal reflection of light
208. The outer skin most of the crustaceans are made up of a carbohydrate. This carbohydrate is
(SSC CGL 1st Sit. 2013)
- (a) cellulose (b) galactose
(c) chitin (d) starch
209. Rutherford's scattering experiment proved the presence of
(SSC CGL 1st Sit. 2013)
- (a) atoms in all matter
(b) electrons in atoms
(c) neutrons in atoms
(d) nucleus in atoms
210. When a metal is heated in a flame, the electrons absorb energy and jump to higher energy state. On coming back to the lower energy state, they emit light, which we can observe in
(SSC CGL 1st Sit. 2013)
- (a) Raman spectra (b) Absorption spectra
(c) Emission spectra (d) Fluorescence
211. Blood pressure may be increased by the excessive secretion of
(SSC CGL 1st Sit. 2013)
- (a) Thyroxine (b) Testosterone
(c) Estradiol (d) Estrol
212. The Concept of 'Green House Gases' was postulated by
(SSC CGL 1st Sit. 2013)
- (a) Joseph Fourier (b) Abdul Kalam
(c) M. S. Swaminathan (d) Richael Carlson
213. "Bhopal gas tragedy" 1984 is related to
(SSC CGL 1st Sit. 2013)
- (a) Aluminium Phosphide
(b) Methyl bromide
(c) Methyl isocyanate
(d) Carbon dioxide
214. The Particulate Matter (PM-10) exhaled from the polluted atmosphere is often filtered out during the process of
(SSC CGL 1st Sit. 2013)
- (a) Coughing (b) Sneezing
(c) A and B (d) Urination
215. The animal who can consume more salt among the following is
(SSC CGL 1st Sit. 2013)
- (a) Sheep (b) Camel
(c) Donkey (d) Dog
216. Cactus is referred to as
(SSC CGL 2014)
- (a) Hydrophyte (b) Mesophyte
(c) Xerophyte (d) Epiphyte
217. Which of the following is not a renewable resource?
(SSC CGL 2014)
- (a) Thorium (b) Geothermal heat
(c) Tidal power (d) Radiant energy
218. How many neck canal cells are found in the archegonium of a fern?
(SSC CGL 2014)
- (a) One (b) Two
(c) Three (d) Four
219. Which angiosperm is vesselless?
(SSC CGL 2014)
- (a) Hydrilla (b) Trochodendron
(c) Maize (d) Wheat

220. Who was the first child born after operative procedure?
(SSC CGL 2014)
(a) Caesar (b) Huxley
(c) William (d) Pasteur
221. Myrmecology is study of (SSC CGL 2014)
(a) Insects (b) Ants
(c) Crustaceans (d) Arthropods
222. HIV often changes its shape due to the presence of an enzyme called (SSC CGL 2014)
(a) Reverse Transcriptase
(b) Enterokinase
(c) Nucleotidase
(d) Nucleoditase
223. Fleming's right hand rule is used to find the direction of the (SSC CGL 2014)
(a) Alternate current (b) Direct current
(c) Induced current (d) Actual current
224. The unit of electrical power is (SSC CGL 2014)
(a) Volt (b) Watt
(c) Kilowatt hour (d) Ampere
225. The resistance of the human body (dry condition) is of the order of (SSC CGL 2014)
(a) 10^1 Ohm (b) 10^2 Ohm
(c) 10^3 Ohm (d) 10^4 Ohm
226. Certain substances lose their electrical resistance completely at super low temperature. Such substances are called (SSC CGL 2014)
(a) super conductors (b) semi conductors
(c) dielectrics (d) perfect conductors
227. Brass contains (SSC CGL 2014)
(a) Copper and Zinc (b) Copper and Tin
(c) Copper and Silver (d) Copper and Nickel
228. Which is the purest commercial form of iron?
(a) Pig iron (b) Steel (SSC CGL 2014)
(c) Stainless steel (d) Wrought iron
229. In galvanization, iron is coated with (SSC CGL 2014)
(a) Copper (b) Zinc
(c) Tin (d) Nickel
230. Which one of the following is also known as solution?
(a) A compound (SSC CGL 2014)
(b) A homogeneous mixture
(c) A heterogeneous mixture
(d) A suspension
231. The cells which are closely associated and interacting with guard cells are (SSC CGL 2014)
(a) Transfusion tissue
(b) Complementary cells
(c) Subsidiary cells
(d) Hypodermal cells
232. Conversion of starch to sugar is essential for (SSC CGL 2014)
(a) Stomatal opening
(b) Stomatal closing
(c) Stomatal formation
(d) Stomatal growth
233. Which of the following Genetically Modified vegetable is recently being made available in Indian market?
(SSC CGL 2014)
(a) Carrot (b) Radish
(c) Brinjal (d) Potato
234. Electric current is measured using which of the following instrument? (SSC CGL 1st Sit. 2015)
(a) Voltmeter (b) Anemometer
(c) Wattmeter (d) Ammeter
235. Photoperiodism affects (SSC CGL 1st Sit. 2015)
(a) Flowering (b) Vegetative growth
(c) Fruiting (d) All of these
236. Match the following : (SSC CGL 1st Sit. 2015)
- | I | | II | |
|-------------------------|---------|---------------------------|---|
| A. Ascorbic acid | | 1. Photosynthetic pigment | |
| B. Chlorophyll | | 2. Quencher | |
| C. Carotenoid | | 3. Enzyme | |
| D. Superoxide dismutase | | 4. Vitamin-C | |
| | A B C D | | |
| (a) 4 | 2 | 1 | 3 |
| (b) 2 | 4 | 1 | 3 |
| (c) 4 | 1 | 3 | 2 |
| (d) 4 | 1 | 2 | 3 |
237. Allantois of Embryo helps in (SSC CGL 1st Sit. 2015)
(a) respiration (b) excretion
(c) protection (d) digestion
238. Which one of the following animals belongs to mollusca ?
(SSC CGL 1st Sit. 2015)
(a) Hare (b) Hydra
(c) Hyla (d) Haliotis
239. Outside the nucleus DNA is found in (SSC CGL 1st Sit. 2015)
(a) Mitochondria
(b) Ribosome
(c) Endoplasmic reticulum
(d) Golgi bodies
240. Animal protein is called first class protein because it is (SSC CGL 1st Sit. 2015)
(a) delicious in taste
(b) cheaper in the market
(c) rich in essential amino acids
(d) easily digestible
241. It is easy to burst a gas filled balloon with a needle than with a nail. It is because (SSC CGL 1st Sit. 2015)
(a) nail exerts more pressure than needle on the balloon
(b) needle exerts more pressure than nail on the balloon
(c) gas is reactive with the needle
(d) nail is more longer than needle
242. The velocity of sound in moist air is more than in dry air because the moist air has (SSC CGL 1st Sit. 2015)
(a) less pressure than dry air
(b) more pressure than dry air
(c) more density than dry air
(d) less density than dry air

243. X-rays can be used (SSC CGL 1st Sit. 2015)
- to detect heart diseases.
 - to detect defects in precious stones and diamonds.
 - to detect gold under the earth.
 - for cutting and welding of metals.
244. Ice is packed in saw dust because (SSC CGL 1st Sit. 2015)
- saw dust is poor conductor of heat.
 - saw dust is a good conductor of heat.
 - saw dust does not stick to the ice.
 - saw dust will not get melted easily.
245. What happens when a drop of glycerol is added to crushed KMnO_4 spread of a paper ? (SSC CGL 1st Sit. 2015)
- There is a violent explosion
 - There is no reaction
 - The paper ignites
 - There is a crackling sound.
246. Most commonly used bleaching agent is (SSC CGL 1st Sit. 2015)
- Alcohol
 - Carbon dioxide
 - Chlorine
 - Sodium chloride
247. The least penetrating power ray is (SSC CGL 1st Sit. 2015)
- α -Ray
 - β -Ray
 - γ -Ray
 - X-Ray
248. Hydrogen peroxide is an effective sterilizing agent. Which one of the following product results when it readily loses active oxygen ? (SSC CGL 1st Sit. 2015)
- Water
 - Hydrogen
 - Ozone
 - Nasant Hydrogen
249. The maximum fixation of solar energy is done by (SSC CGL 1st Sit. 2015)
- Bacteria
 - Fungi
 - Green plants
 - Protozoa
250. The term 'brown air' is used for (SSC CGL 1st Sit. 2015)
- Photochemical smog
 - Sulfurous smog
 - Industrial smog
 - Acid fumes
251. Peroxyacetyl nitrate is a (SSC CGL 1st Sit. 2015)
- Plant hormone
 - Vitamin
 - Secondary pollutant
 - Acidic dye
252. Which of the following particles has the dual nature of particle-wave ? (SSC CGL 1st Sit. 2015)
- Neutron
 - Electron
 - Meson
 - Proton
253. The metal ion present in vitamin B_{12} is (SSC CGL 1st Sit. 2015)
- nickel
 - cobalt
 - iron
 - zinc
254. Who of the following has given the term rhizosphere (SSC CGL 1st Sit. 2015)
- Alexopolus
 - Garret
 - Hiltner
 - None of the given options
255. Reverse transcription was discovered by (SSC CGL 1st Sit. 2015)
- Beadle and Tatum
 - Watson and Crick
 - Temin and Baltimore
 - Har Govind Khorana
256. Burns caused by steam are much more severe than those caused by boiling water because: (SSC CGL 1st Sit. 2015)
- Steam pierces through the pores of body quickly
 - Temperature of steam is higher
 - Steam is gas and engulfs the body quickly
 - Steam has latent heat
257. Which among the following is the sweetest sugar? (SSC CGL 1st Sit. 2015)
- lactose
 - maltose
 - glucose
 - fructose
258. Ultra purification of a metal is done by : (SSC CGL 1st Sit. 2015)
- smelting
 - leaching
 - zone melting
 - slagging
259. Microbial degradation of nitrates into atmospheric nitrogen is known as : (SSC CGL 1st Sit. 2015)
- Ammonification
 - Denitrification
 - Putrefacation
 - Nitrification
260. The best milch breed in the world is : (SSC CGL 1st Sit. 2015)
- Deoni
 - Holstein – Friesian
 - Sindhi
 - Chittagong
261. Muddy water is treated with alum in purification process, it is termed as : (SSC CGL 1st Sit. 2015)
- absorption
 - adsorption
 - coagulation
 - emulsification
262. An enzyme produced by HIV that allows the integration of HIV DNA into the host cell's DNA is: (SSC CGL 1st Sit. 2015)
- DNA gyrase
 - Ligase
 - Integrase
 - Helicase
263. The two specific heats of gases are related by : (SSC CGL 1st Sit. 2015)
- $C_p / C_v = R$
 - $C_p - C_v = RJ$
 - $C_p - C_v = R/J$
 - $C_p + C_v = RJ$
264. The antibiotic penicillin is obtained from which of the following ? (SSC CGL 1st Sit. 2016)
- synthetic process
 - a bacterium
 - fungus
 - virus infected cells
265. Which of the following is indicated by the colour of a star ? (SSC CGL 1st Sit. 2016)
- weight
 - distance
 - temperature
 - size
266. Atomic number of an atom gives the number of which of the following ? (SSC CGL 1st Sit. 2016)
- electrons
 - protons
 - neutrons
 - neutrons and protons

267. DPT vaccine is categorized as which of the following ?
(SSC CGL 1st Sit. 2016)
- Anti viral vaccine
 - Anti protozoan vaccine
 - Anti rickettsial vaccine
 - A combined vaccine
268. Which is the highest quality of hard coal?
(SSC CGL 1st Sit. 2016)
- Anthracite
 - Bituminous
 - Lignite
 - Peat
269. For which one of the following, 'Diodes' are generally used for?
(SSC CGL 1st Sit. 2016)
- Rectification
 - Amplification
 - Modulation
 - Filtration
270. An anemometer measures which of the following ?
(SSC CGL 1st Sit. 2016)
- Speed of light
 - Speed of wind
 - Speed of water current
 - Speed of satellites
271. Which cell disorder in our body is responsible for colour blindness?
(SSC CGL 1st Sit. 2016)
- WBC
 - Cone cell
 - Rod Cell
 - Neuron
272. Which one of the following forms the base of vegetable fibres?
(SSC CGL 1st Sit. 2016)
- Cellulose
 - Proteins
 - Fats
 - Oils
273. A particle is thrown vertically upward. When it reaches the highest point, it has _____.
(SSC CGL 1st Sit. 2016)
- a downward acceleration
 - an upward acceleration
 - a downward velocity
 - a horizontal velocity
274. During fermentation of sugar, the compound which is always formed is
(SSC CGL 1st Sit. 2016)
- Methyl Alcohol
 - Ethyl Alcohol
 - Acetic Acid
 - Ethylene
275. The quality or tone of a musical sound produced by a stringed instrument depends on (SSC CGL 1st Sit. 2016)
- frequency of vibration
 - length of the strings in the instrument
 - amplitude of vibration
 - waveform of the sound
276. Removal of carbon particles from air involves the principle of
(SSC CGL 1st Sit. 2016)
- Precipitation
 - Filtration
 - Electrophoresis
 - Sedimentation
277. Which light is least effective in photosynthesis?
(SSC CGL 1st Sit. 2016)
- Blue light
 - Green light
 - Red light
 - Sunlight
278. Which of the following acts as best adsorbent?
(SSC CGL 1st Sit. 2016)
- Charcoal
 - Activated Charcoal
 - Activated Coconut Charcoal
 - Carbon black
279. The maximum fixation of solar energy is done by
(SSC CGL 1st Sit. 2016)
- Bacteria
 - Protozoa
 - Fungi
 - Green plants
280. 'Parsec' is the unit measurement of
(SSC CGL 1st Sit. 2016)
- Density of stars
 - Astronomical distance
 - Brightness of heavenly bodies
 - Orbital velocity of giant stars
281. At room temperature, the metal that remains liquid is:
(SSC CGL 1st Sit. 2016)
- Mercury
 - Platinum
 - Lead
 - Zinc
282. Which is known as carbolic acid? (SSC CGL 1st Sit. 2016)
- Phenol
 - Ethanol
 - Acetic acid
 - Oxalic acid
283. Which one of the following substances is normally found in urine?
(SSC CGL 1st Sit. 2016)
- Blood proteins
 - Creatinine
 - Red blood cells
 - White blood cells
284. The thymus gland produces a hormone called
(SSC CGL 1st Sit. 2016)
- thyroxine
 - thymosin
 - thyronine
 - calcitonin
285. Blood group AB has
(SSC CGL 1st Sit. 2016)
- No antigen
 - No antibody
 - Neither antigen nor antibody
 - Both antigen and antibody
286. Which vitamins are those, if taken in excess can be dangerous as they are stored in the body? (SSC CGL 1st Sit. 2016)
- B Complex
 - E and C
 - B and C
 - A and D
287. Atomic explosion is triggered by (SSC CGL 1st Sit. 2016)
- thermo nuclear reaction
 - chemical reaction
 - controlled chain reaction
 - uncontrolled chain reaction
288. The phenomenon of change in direction of light when it passes from one medium to another is called
(SSC CGL 1st Sit. 2016)
- Propagation
 - Reflection
 - Refraction
 - Dispersion
289. When ice cubes are made, the entropy of water
(SSC CGL 1st Sit. 2016)
- does not change
 - decreases
 - increases
 - may either increase or decrease depending on the process used

290. Two vectors are said to be equal if
(SSC CGL 1st Sit. 2016)
- only their magnitudes are same
 - only their directions are same
 - both magnitude and direction are same
 - magnitudes are same but directions are opposite
291. The chemical component that is invariably found in all viruses is
(SSC CGL 1st Sit. 2016)
- proteins
 - lipids
 - DNA
 - RNA
292. Which is used as an Air pollution indicator?
(SSC CGL 1st Sit. 2016)
- Algae
 - Fungi
 - Bacteria
 - Lichens
293. Salination of soil is caused by
(SSC CGL 1st Sit. 2016)
- Pesticides
 - soil erosion
 - excess irrigation
 - crop rotation
294. Which enzyme digests proteins in the stomach?
(SSC CGL 1st Sit. 2016)
- Trypsin
 - Pepsin
 - Salivary amylase
 - Pancreatic canal
295. Fermentation is a type of _____ process.
(SSC CGL 1st Sit. 2016)
- Aerobic Respiration
 - Anaerobic Respiration
 - Exothermic Reaction
 - Transpiration
296. Which part of the plant is used as 'saffron'?
(SSC CHSL 2012)
- Petals
 - Stamens
 - Style and Stigma
 - Sepals
297. Suspended colloidal particles in the water can be removed by the process of :
(SSC CHSL 2012)
- Filtration
 - Adsorption
 - Absorption
 - Coagulation
298. Grave's disease is caused due to:
(SSC CHSL 2012)
- hyperactivity of thyroid
 - hypoactivity of thymus
 - hypoactivity of thyroid
 - hyperactivity of thymus
299. A white solid 'A' on heating gives off a gas which turns lime water milky. The residue is yellow when hot but turns white on cooling. The solid A is:
(SSC CHSL 2012)
- Zinc Carbonate
 - Lead Sulphate
 - Lead Carbonate
 - Zinc Sulphate
300. Which of the following is the strongest coagulant ?
(SSC CHSL 2012)
- Zinc Chloride
 - Aluminium Chloride
 - Barium Chloride
 - Magnesium Sulphate
301. The property which is seen in light wave but not in sound wave is :
(SSC CHSL 2012)
- Diffraction
 - Refraction
 - Polarization
 - Interference
302. Iron and manganese are removed in water by the process of :
(SSC CHSL 2012)
- Chlorination
 - Filtration
 - Lime-soda treatment
 - Aeration
303. Which enzyme is obtained from Red gram ?
(SSC CHSL 2012)
- Zymase
 - Maltase
 - Diastase
 - Urease
304. A radioactive substance has a half-life of four months. Three-fourth of the substance will decay in:
(SSC CHSL 2012)
- 8 months
 - 12 months
 - 4 months
 - 6 months
305. Chiropterophily means:
(SSC CHSL 2012)
- production of flowers
 - pollination by wind
 - pollination by bat
 - production of leaves
306. Which one among the following is a solid lubricant ?
(SSC CHSL 2012)
- Germanium
 - Sulphur
 - Graphite
 - Indium
307. Longest cell in human body is:
(SSC CHSL 2012)
- Blood cell
 - Bone cell
 - Nerve cell
 - Muscle cell
308. The acid rain destroys the vegetation because it contains:
(SSC CHSL 2012)
- Ozone
 - Carbon monoxide
 - Sulphuric acid
 - Nitrates
309. Activated sludge treatment is called:
(SSC CHSL 2012)
- Preliminary treatment
 - Biological treatment
 - Pre treatment
 - Chemical treatment
310. Caustic soda is :
(SSC CHSL 2012)
- deliquescent
 - oxidant
 - reductant
 - efflorescent
311. Red light is used in traffic signal for stopping the traffic because:
(SSC CHSL 2012)
- eye is more sensitive to red light.
 - it is least scattered and hence can be easily noticed from long distance.
 - it is very pleasant to the eye.
 - it is visible even to longsighted people.
312. What is a neuron ?
(SSC CHSL 2013)
- Basic unit of nervous system
 - Basic unit of energy
 - Particle released during radioactivity
 - The anti-particle of neutron
313. A cellulosic wall is found in the cells of
(SSC CHSL 2013)
- plants
 - animals
 - bacteria
 - fungi
314. The filtration unit of kidney is
(SSC CHSL 2013)
- yellow fiber
 - axon
 - nephron
 - neuron
315. The nutritive tissue in the seeds of higher plants is known as
(SSC CHSL 2013)
- nucellus
 - hypocotyl
 - embryo
 - endosperm
316. Yeast is an important source of
(SSC CHSL 2013)
- protein
 - vitamin B
 - invertase
 - vitamin C

317. Enzymes are (SSC CHSL 2013)
 (a) Lipids (b) Steroids
 (c) Carbohydrates (d) Proteins
318. Heating of an ore below its melting point in the absence of air is known as (SSC CHSL 2013)
 (a) Smelting (b) Refining
 (c) Calcination (d) Roasting
319. The most electronegative element among the following is (SSC CHSL 2013)
 (a) Oxygen (b) Fluorine
 (c) Sodium (d) Chlorine
320. Mark the compound which possesses ionic, covalent and co-ordinate bonds. (SSC CHSL 2013)
 (a) H_2O (b) NH_4Cl
 (c) SO_3 (d) SO_2
321. The depletion of Ozone layer is mainly due to (SSC CHSL 2013)
 (a) Chlorofluorocarbons
 (b) Volcanic eruptions
 (c) Aviation fuels
 (d) Radioactive rays
322. Match correctly the infectious agents given in List I with the diseases caused by them given in List II : (SSC CHSL 2013)
- | List I | List II |
|------------------------|------------------------|
| a. Bacterium | 1. Kala-azar |
| b. Fungus | 2. Tuberculosis |
| c. Protozoan | 3. Influenza |
| d. Virus | 4. Ringworm |
| (a) a-4, b-2, c-3, d-1 | (b) a-1, b-2, c-4, d-3 |
| (c) a-2, b-4, c-1, d-3 | (d) a-3, b-1, c-2, d-4 |
323. Matter waves are (SSC CHSL 2013)
 (a) Longitudinal waves
 (b) de Broglie waves
 (c) Electromagnetic waves
 (d) Transverse waves
324. When the milk is churned vigorously the cream from it is separated out due to (SSC CHSL 2013)
 (a) Centrifugal force (b) Centripetal force
 (c) Gravitational force (d) Frictional force
325. Gas thermometers are more sensitive than the liquid thermometers because the gases (SSC CHSL 2013)
 (a) have high specific heat
 (b) have large coefficient of expansion
 (c) are lighter
 (d) have low specific heat
326. Which of the following is *not* caused by atmospheric refraction of light ? (SSC CHSL 2013)
 (a) Sun becoming visible two or three minutes before actual sunrise
 (b) Sun appearing red at sunset
 (c) Twinkling of stars at night
 (d) Sun appearing higher in the sky than it actually is
327. From which part of Opium Plant we get morphine ? (SSC CHSL 2014)
 (a) Leaves (b) Stem
 (c) Bark (d) Fruit coat
328. Which of the following is a Biological method of soil conservation ? (SSC CHSL 2014)
 (a) Contour farming (b) Contour terracing
 (c) Gully control (d) Basin listing
329. Glucose is a type of (SSC CHSL 2014)
 (a) Pentose sugar (b) Hexose sugar
 (c) Tetrose sugar (d) Diose sugar
330. Number of mitochondria in bacterial cell is (SSC CHSL 2014)
 (a) one (b) two
 (c) many (d) zero
331. Rainbow is formed due to (SSC CHSL 2014)
 (a) refraction and dispersion
 (b) scattering and refraction
 (c) diffraction and refraction
 (d) refraction and reflection
332. Golden view of sea shell is due to (SSC CHSL 2014)
 (a) Diffraction (b) Dispersion
 (c) Polarization (d) Reflection
333. An object covers distance which is directly proportional to the square of the time. Its acceleration is (SSC CHSL 2014)
 (a) increasing (b) decreasing
 (c) zero (d) constant
334. If the horizontal range of a projectile is four times its maximum height, the angle of projection is (SSC CHSL 2014)
 (a) 30° (b) 45°
 (c) $\sin^{-1}\left(\frac{1}{4}\right)$ (d) $\tan^{-1}\left(\frac{1}{4}\right)$
335. Which of the following metals has least melting point ? (SSC CHSL 2014)
 (a) Gold (b) Silver
 (c) Mercury (d) Copper
336. The gas produced in marshy places due to decomposition of vegetation is (SSC CHSL 2014)
 (a) Carbon monoxide (b) Carbon dioxide
 (c) Sulphur dioxide (d) Methane
337. In cactus, the spines are the modified (SSC CHSL 2014)
 (a) stem (b) stipules
 (c) leaves (d) buds
338. The smallest known prokaryotic organism is (SSC CHSL 2014)
 (a) Microcystis (b) Mycoplasma
 (c) Bacteria (d) Chlorella
339. According to your text, what can "be thought of as the genetic library that keep life going on Earth" ? (SSC CHSL 2014)
 (a) A bio-engineering lab
 (b) Human genes
 (c) The human genome project
 (d) Biodiversity

340. The boiling point of water decreases at higher altitudes is due to **(SSC CHSL 2014)**
 (a) low temperature
 (b) low atmospheric pressure
 (c) high temperature
 (d) high atmospheric pressure
341. The chemical name of "Hypo" commonly used in photography is **(SSC CHSL 2014)**
 (a) Sodium thiosulphate (b) Silver nitrate
 (c) Sodium nitrate (d) Silver iodide
342. Soldering of two metals is possible because of the property of: **(SSC CHSL 2015)**
 (a) Osmosis (b) Viscosity
 (c) Surface tension (d) Cohesion
343. Stalactites & Stalagmites form due to the precipitation of: **(SSC CHSL 2015)**
 (a) CaCl_2 (b) MgCO_3
 (c) MgCl_2 (d) CaCO_3
344. Which of the following is a form of sexual reproduction: **(SSC CHSL 2015)**
 (a) Fission (b) Fragmentation
 (c) Budding (d) Hermaphroditism
345. In which region of electromagnetic spectrum does the Lyman series of hydrogen atom lie? **(SSC CHSL 2015)**
 (a) x-ray (b) Ultraviolet
 (c) Visible (d) Infrared
346. An electrochemical cell which is used as a source of direct electrical current at constant voltage under standard conditions is called a: **(SSC CHSL 2015)**
 (a) Power transistor
 (b) Battery
 (c) Generator
 (d) Uninterrupted power supply (UPS)
347. A light wave is incident over a plane surface with velocity X. After reflection the velocity becomes: **(SSC CHSL 2015)**
 (a) x (b) 2x
 (c) $\frac{x}{4}$ (d) $\frac{x}{2}$
348. The area reserved for the welfare of wild life is called **(SSC CHSL 2015)**
 (a) Sanctuary (b) Botanical garden
 (c) Forest (d) National park
349. The gas dissolved in water that makes it basic is? **(SSC CHSL 2015)**
 (a) ammonia (b) hydrogen
 (c) sulphur dioxide (d) carbon dioxide
350. Yellow complexion, medium stature, oblique eye with an epicanthic fold is the characteristic feature of: **(SSC CHSL 2015)**
 (a) Australoids (b) Negroid
 (c) Mongoloid (d) Causoid
351. Chromosome designation of Turner syndrome is: **(SSC CHSL 2015)**
 (a) 44A+XO (b) 44A+XXY
 (c) 44A+XXX (d) 44A+YYY
352. Distant objects are visible as a little out of focus in this condition: **(SSC CHSL 2015)**
 (a) hypermetropia (b) presbiopia
 (c) astigmatism (d) myopia
353. Maximum oxygen is available from: **(SSC CHSL 2015)**
 (a) Green forests
 (b) Deserts
 (c) Grass lands
 (d) Phytoplanktons
354. In a reaction of the type $A + B \rightarrow C + D$ one could ensure it to be a first order reaction by: **(SSC CHSL 2015)**
 (a) Increasing the concentration of a reactant
 (b) Adding a catalyst
 (c) Increasing the temperature
 (d) Increasing the concentration of a product
355. The amount of matter in a ball of steel is its: **(SSC CHSL 2015)**
 (a) Mass (b) Density
 (c) Volume (d) Weight
356. Transpiration increases in: **(SSC CHSL 2015)**
 (a) Hot, damp and windy condition
 (b) Cool, damp and windy condition
 (c) Cool, dry and still condition
 (d) Hot, dry and windy condition
357. If xylem and phloem are arranged in the same radius, such a vascular bundle is called: **(SSC CHSL 2015)**
 (a) bicollateral (b) concentric
 (c) radial (d) collateral
358. Planck's constant has the dimensions of: **(SSC CHSL 2015)**
 (a) linear momentum (b) angular momentum
 (c) force (d) energy
359. The most abundant element by number in the living system is: **(SSC CHSL 2015)**
 (a) Hydrogen (b) Oxygen
 (c) Carbon (d) Nitrogen
360. Which of the following phenomenon helps to conclude that light is a transverse wave? **(SSC CHSL 2015)**
 (a) diffraction (b) polarisation
 (c) refraction (d) interference
361. Among the following districts of Tamil Nadu, which district is unfit for cultivation due to increased salinity: **(SSC CHSL 2015)**
 (a) Tiruchirapalli (b) Nagapattinam
 (c) Ramanathapuram (d) Coimbatore
362. Natural system of classification was proposed by _____ botanists. **(SSC CHSL 2015)**
 (a) German (b) Swedish
 (c) British (d) Indian
363. Minamata disease is caused by pollution of water by: **(SSC CHSL 2015)**
 (a) tin (b) methyl isocyanate
 (c) mercury (d) lead
364. The "King of Metals" is: **(SSC CHSL 2015)**
 (a) Silver (b) Iron
 (c) Aluminium (d) Gold

365. Amino acids are required for the synthesis of :
(SSC CHSL 2015)
(a) Lipids (b) Proteins
(c) Carbohydrates (d) Alkaloids
366. The most suitable unit for expressing nuclear radius is:
(SSC CHSL 2015)
(a) fermi (b) angstrom
(c) micron (d) nanometre
367. Blowing Air with open pipe is an example of :
(SSC CHSL 2015)
(a) Isochoric Process (b) Isobaric process
(c) Adiabatic process (d) Isothermal process
368. Christmas factor is involved in : (SSC CHSL 2015)
(a) Excretion (b) Digestion
(c) Respiration (d) Blood Coagulation
369. Which one out of the following helps in burning
(SSC Multitasking 2013)
(a) Carbon dioxide (b) Oxygen
(c) Carbon monoxide (b) Nitrogen
370. In organic compounds, nitrogen is estimated by
(SSC Multitasking 2013)
(a) Dumas' method
(b) Carius method
(c) Victor-Meyer's method
(d) Liebig's method
371. Master copy of genetic information is
(SSC Multitasking 2013)
(a) DNA (b) Nucleus
(c) r-RNA (d) m-RNA
372. Contraceptive pills in the market contain
(SSC Multitasking 2013)
(a) steroid-hormones
(b) inorganic compounds
(c) herbicides
(d) antibiotics
373. Nematocysts are present in (SSC Multitasking 2013)
(a) Sea anemone (b) Starfish
(c) Ascaris (d) Centipede
374. Which of the following micro-organisms is used in milk curdling?
(SSC Multitasking 2013)
(a) *Lactobacillus* (b) *Acctobacter*
(c) *Leuconostoc* (d) *Bacillus*
375. Which of the following is present in Chlorophyll molecule?
(SSC Multitasking 2013)
(a) K (b) Mn
(c) Mg (d) Fe
376. When a body falls from an aeroplane, there is increase in its
(SSC Multitasking 2013)
(a) potential energy
(b) kinetic energy
(c) mass
(d) acceleration
377. What does 'Ozone Layer' absorb?
(SSC Multitasking 2013)
(a) γ -rays (b) Infrared rays
(c) Ultraviolet rays (d) X-rays
378. In a water lifting electric pump, we convert
(SSC Multitasking 2013)
(a) electrical energy into kinetic energy
(b) electrical energy into potential energy
(c) kinetic energy into electrical energy
(d) kinetic energy into potential energy
379. The type of mirror used in automobiles to see the traffic on the rear side is
(SSC Multitasking 2013)
(a) Convex (b) Concave
(c) Plano-Convex (d) Plane
380. The hottest part of the gas flame is known as
(SSC Multitasking 2013)
(a) dark zone (b) blue zone
(c) non-luminous zone (d) luminous zone
381. Which of the following radiations has the least wavelength?
(SSC Multitasking 2013)
(a) β -rays (b) X-rays
(c) α -rays (b) γ -rays
382. The earth is a
(SSC Multitasking 2013)
(a) bad absorber and bad radiator of heat
(b) good reflector of heat
(c) non-absorber of heat
(d) good absorber and good radiator of heat
383. BCG vaccination is given at the age of
(SSC Multitasking 2013)
(a) Within 15 days (b) 2-3 years
(c) 10 years (d) Newborn
384. Which of the following atmospheric gases constitute greenhouse gases?
(SSC Multitasking 2013)
1. Carbon dioxide 2. Nitrogen
3. Nitrous oxide 4. Water vapour
Select the correct answer using the codes given below.
(a) 1, 2 and 4 (b) 1, 3 and 4
(c) 1 and 4 (d) 1 and 3
385. Hydrogen bomb is based on the principle of
(SSC Multitasking 2014)
(a) Double decomposition
(b) Artificial radioactivity
(c) Nuclear fission
(d) Nuclear fusion
386. The commonly used safety fuse-wire is made of
(SSC Multitasking 2014)
(a) an alloy of Nickel and Lead
(b) an alloy of Tin and Lead
(c) an alloy of Tin and Nickel
(d) an alloy of Lead and Iron
387. At what temperature is the density of water the maximum?
(SSC Multitasking 2014)
(a) 2°C (b) 4°C
(c) 0°C (d) 1°C
388. The linear expansion of a solid rod is independent of its
(SSC Multitasking 2014)
(a) increase in temperature
(b) time of heat flow
(c) initial length
(d) material

389. Cathode rays when obstructed by metal cause emission of
(SSC Multitasking 2014)
(a) γ -rays (b) X-rays
(c) α -rays (d) β -rays
390. Who is the father of biology? (SSC Multitasking 2014)
(a) Lamarck (b) Robert Hooke
(c) Aristotle (d) Pasteur
391. The smallest unit of classification is
(SSC Multitasking 2014)
(a) Species (b) Genus
(c) Family (d) Order
392. Aerenchyma is present in (SSC Multitasking 2014)
(a) Banana stem (b) Palm stem
(c) Aquatic plants (d) Xerophytic plants
393. The deficiency of vitamin A causes
(SSC Multitasking 2014)
(a) Scurvy (b) Night blindness
(c) Beri-Beri (d) Dermatitis
394. Clove is a (SSC Multitasking 2014)
(a) Dried flower bud (b) Flower
(c) Fruit (d) Seed
395. On heating, Gypsum loses certain percentage of its water content and becomes (SSC Multitasking 2014)
(a) Chalk (b) Calcium sulphate
(c) Plaster of Paris (d) a pearl
396. The name of the scientist who discovered neutron is
(SSC Multitasking 2014)
(a) Fermi (b) Rutherford
(c) Chadwick (d) Bohr
397. The bubbles in Champagne and Soda are
(SSC Multitasking 2014)
(a) Nitrogen (b) Oxygen
(c) Carbon dioxide (d) Hydrogen
398. Gobar gas contains mainly (SSC Multitasking 2014)
(a) Butane (b) Carbon monoxide
(c) Methane (d) Carbon dioxide
399. "Carbon Credit" is a term associated with the
(SSC Multitasking 2014)
(a) Global deforestation
(b) Offshore banking
(c) Protection of environment
(d) Deforestation in India
400. The green colour of plant leaves is due to
(SSC Multitasking 2014)
(a) Protein (b) Chlorophyll
(c) Cellulose (d) Starch
401. Temperature is measured by the instrument called
(SSC Multitasking 2014)
(a) Voltmeter (b) Calorimeter
(c) Thermometer (d) Ammeter
402. The pH of pure water is (SSC Multitasking 2014)
(a) Seven (b) Fourteen
- (a) Fractional crystallisation (b) Decantation
(c) Distillation (d) Sublimation
404. H_2SO_4 cannot be used as (SSC Multitasking 2014)
(a) Disinfectant (b) Food preservative
(c) Drying agent (d) Dehydrating agent
405. The red colour of ripe tomatoes is due to the presence of
(SSC Sub. Ins. 2012)
(a) Hormones (b) Vitamins
(c) Chlorophyll (d) Carotenoids
406. Anticoagulants are *not* present in
(SSC Sub. Ins. 2012)
(a) Mosquito (b) Bed bug
(c) Leech (d) Wasp
407. Vegetation is effective in absorbing (SSC Sub. Ins. 2012)
(a) Pollutant gases (b) Polluted water
(c) High frequency sound (d) Pollutant metals
408. When a person cries, there is a watery discharge from the nose due to activation of (SSC Sub. Ins. 2012)
(a) Salivary gland (b) Lachrymal gland
(c) Thyroid gland (d) Endocrine gland
409. The fundamental role of root hairs in plants is
(SSC Sub. Ins. 2012)
(a) to protect the young root from damage by coarse soil particles
(b) to protect the root from soil microbes
(c) to absorb water and mineral salts from the soil
(d) to bind soil particles to the root for firm fixation of the plant
410. Catch crops are (SSC Sub. Ins. 2012)
(a) crops planted to attract certain insect pests to be destroyed
(b) crops planted to attract certain useful insects to be used for biological control of pests
(c) crops to be cut and fed green to the cattle
(d) substitute crops planted after the regular crop has failed.
411. The pigment that protects plants from UV damage is
(SSC Sub. Ins. 2012)
(a) Chlorophyll (b) Xanthophyll
(c) Phycocyanin (d) Carotenoids
412. A bioenergy source obtained by fermentation to supplement fossil fuel petrol is (SSC Sub. Ins. 2012)
(a) Kerosene (b) Ethanol
(c) Diesel (d) Methane
413. The substance that causes the worst air pollution is
(SSC Sub. Ins. 2012)
(a) Smoke (b) Sulphur dioxide
(c) Carbon dioxide (d) Carbon monoxide
414. A liquid is said to boil when its (SSC Sub. Ins. 2012)
(a) vapour pressure equals the surrounding pressure
(b) vapour pressure vanishes to zero

415. Which is *not* correct regarding covalent compounds?
(SSC Sub. Ins. 2012)
- (a) The reaction is slow
(b) The reaction is fast
(c) Compounds are usually liquids and gases
(d) Boiling points and melting points are low
416. Choose the correct statement (SSC Sub. Ins. 2012)
- (a) The components of a mixture cannot be separated
(b) The properties of a mixture are the same as those of its components
(c) Mixtures are homogeneous
(d) In a mixture the components are present in a fixed ratio
417. PVC is obtained by the polymerisation of
(SSC Sub. Ins. 2012)
- (a) Propene (b) Vinyl chloride
(c) Styrene (d) Acetylene
418. To eliminate the glare of headlights in motor cars,
(SSC Sub. Ins. 2012)
- (a) polaroids are used (b) glass prisms are used
(c) thin films are used (d) filters are used
419. The substances which have infinite electrical resistance are called
(SSC Sub. Ins. 2012)
- (a) insulators (b) condensers
(c) conductors (d) resistors
420. Stainless steel is an alloy of (SSC Sub. Ins. 2012)
- (a) iron, chromium and nickel
(b) iron, chromium and carbon
(c) iron, carbon and zinc
(d) iron, zinc and manganese
421. Enriched uranium used in a nuclear reactor is
(SSC Sub. Ins. 2012)
- (a) uranium free of all impurities
(b) uranium treated with radiation
(c) uranium alloyed with aluminium
(d) uranium with a high percentage of a particular isotope
422. In a refrigerator, cooling is produced by
(SSC Sub. Ins. 2012)
- (a) the ice which deposits in the freezer
(b) the sudden expansion of a compressed gas
(c) the evaporation of a volatile liquid
(d) None of these
423. Which one of the following statements about Pyrolysis which is a process for solid waste treatment is incorrect?
(SSC Sub. Ins. 2013)
- (a) It converts the waste into solid, liquid and gas of which the resultant liquid and gas can be used to produce energy.
(b) The process occurs at a temperature above 430°C at atmospheric pressure.
(c) The process occurs under high pressure at temperature above 430°C.
(d) It is a thermochemical decomposition of organic waste
424. Which of the following supports particle nature of photons?
(SSC Sub. Ins. 2013)
- (a) Diffraction (b) Polarization
(c) Photoelectric effect (d) Interference
425. The heaviest naturally occurring element is:
(SSC Sub. Ins. 2013)
- (a) Mercury (b) Polonium
(c) Thorium (d) Uranium
426. Haptens are: (SSC Sub. Ins. 2013)
- (a) Pseudoantigens (b) Incomplete antigens
(c) Antibodies (d) Isoantigens
427. Sulphur dioxide bleaches colouring matter by :
(SSC Sub. Ins. 2013)
- (a) Reduction (b) Dehydration
(c) Decomposition (d) Oxidation
428. Which of the following elements is not radio-active?
(SSC Sub. Ins. 2013)
- (a) Radium (b) Plutonium
(c) Zirconium (d) Uranium
429. Wilting of plants occurs due to excessive :
(SSC Sub. Ins. 2013)
- (a) Respiration (b) Guttation
(c) Absorption (d) Transpiration
430. Gypsum is used for improvement of:
(SSC Sub. Ins. 2013)
- (a) Alkaline soils (b) Saline soils
(c) Podsoles (d) Acidic soils
431. Indicate the correct arrangement for electromagnetic radiation in order of their increasing wavelength.
(SSC Sub. Ins. 2013)
- (a) Microwave, infrared, visible, X-rays
(b) X-rays, visible, infrared, microwave
(c) Visible, infrared, microwave, X-rays
(d) X-rays, infrared, visible, microwave
432. The rapidly growing mass of phytoplankton covering the surface water of a lake or pond is known as
(SSC Sub. Ins. 2013)
- (a) Eutrophication
(b) Water bloom
(c) Water pollution
(d) Water hyacinth
433. Wings of birds are: (SSC Sub. Ins. 2013)
- (a) Modified hind limbs
(b) New structure
(c) Integumentary outgrowth
(d) Modified fore limbs
434. Spontaneous change is one in which there is
(SSC Sub. Ins. 2013)
- (a) A lowering of entropy
(b) A lowering of free energy
(c) Increase in free energy
(d) An increase in Internal energy
435. Sandstone is metamorphosed to (SSC Sub. Ins. 2013)
- (a) Shale (b) Slate
(c) Quartzite (d) Marble
436. Instrument used to study the behaviour of a vibrating string is
(SSC Sub. Ins. 2013)
- (a) Barometer (b) Hydrometer
(c) Hygrometer (d) Sonometer

437. The casual organism of Polio is (SSC Sub. Ins. 2013)
 (a) A fungi (b) A virus
 (c) A worm (d) A bacteria
438. Panda belongs to the same family as that (SSC Sub. Ins. 2013)
 (a) Kangaroo (b) Porcupine
 (c) Whale (d) Bear
439. The pancreas secretes (SSC Sub. Ins. 2014)
 (a) Insulin (b) Bile juice
 (c) Peptic juice (d) None of these
440. When we touch leaves of "Touch me not plant", they close, these movements are called (SSC Sub. Ins. 2014)
 (a) photonastic movements
 (b) nyctinastic movements
 (c) seismonastic movements
 (d) chemonastic movements
441. The concept of tissue culture was introduced by (SSC Sub. Ins. 2014)
 (a) Halfmeister (b) Hanstein
 (c) Haberlandt (d) Hanning
442. Beak is formed by (SSC Sub. Ins. 2014)
 (a) cheeks (b) jaws
 (c) teeth (d) none
443. Pinna (external ear) is present in (SSC Sub. Ins. 2014)
 (a) amphibian (b) fish
 (c) mammal (d) reptile
444. Purity of a metal can be determined with the help of (SSC Sub. Ins. 2014)
 (a) Pascal's law
 (b) Boyle's law
 (c) Archimedes principle
 (d) Conservation of mass principle
445. If both the mass and the velocity of a body is increased to twice of their magnitude, the kinetic energy will increase by (SSC Sub. Ins. 2014)
 (a) 2 times (b) 4 times
 (c) 8 times (d) 16 times
446. Two bodies kept at a certain distance feel a gravitational force F to each other. If the distance between them is made double the former distance, the force will be (SSC Sub. Ins. 2014)
 (a) $2F$ (b) $\frac{1}{2}F$
 (c) $4F$ (d) $\frac{1}{4}F$
447. Stationary wave is formed by (SSC Sub. Ins. 2014)
 (a) a transverse wave superposing a longitudinal wave
 (b) two waves of the same speed superposing
 (c) two waves of same frequency travelling in the same direction
 (d) two waves of same frequency travelling in the opposite direction
448. In an oxygen molecule, two atoms are united by (SSC Sub. Ins. 2014)
 (a) the bond (b) two bonds
 (c) three bonds (d) four bonds
449. The inert gas which is substituted for nitrogen in the air used by deep sea divers for breathing is (SSC Sub. Ins. 2014)
 (a) Neon (b) Krypton
 (c) Argon (d) Helium
450. How many neutrons are there in ${}_{92}\text{U}^{238}$ atom? (SSC Sub. Ins. 2014)
 (a) 92 (b) 238
 (c) 146 (d) 330
451. Root pressure is measured by (SSC Sub. Ins. 2014)
 (a) Barometer (b) Atmometer
 (c) Manometer (d) Auxanometer
452. Cell becomes turgid because of (SSC Sub. Ins. 2014)
 (a) Plasmolysis (b) Exosmosis
 (c) Endosmosis (d) Diffusion
453. The process of imbibition involves (SSC Sub. Ins. 2014)
 (a) diffusion (b) capillary action
 (c) absorption (d) both (A) & (B)
454. A cell increases in volume when it is placed in (SSC Sub. Ins. 2014)
 (a) Hypertonic solution (b) Hypotonic solution
 (c) Isotonic solution (d) None of these
455. A reversible and an irreversible engine are working between the same limits of temperature. The efficiency of. (SSC Sub. Ins. 2015)
 (a) The reversible engine is greater than the irreversible engine.
 (b) Each engine is 100%.
 (c) The two engines are equal
 (d) The irreversible engine is greater than the reversible engine.
456. Which of the following is used in the treatment of cancer? (SSC Sub. Ins. 2015)
 (a) Electrotherapy (b) Psychotherapy
 (c) Chemotherapy (d) Physiotherapy
457. The most abundant element is (SSC Sub. Ins. 2015)
 (a) Silicon (b) Calcium
 (c) Nitrogen (d) Oxygen
458. An electron microscope gives higher magnifications than an optical microscope because (SSC Sub. Ins. 2015)
 (a) the electrons have more energy than the light particles.
 (b) the electron microscope uses more powerful lenses.
 (c) the wavelength of electrons is smaller as compared to the wavelength of visible light.
 (d) the velocity of electrons is smaller than that of light.
459. What does the word 'amphibian' mean? (SSC Sub. Ins. 2015)
 (a) Two lives (b) Four lives
 (c) Three lives (d) One life
460. Nitrogen in water is commonly found in the form of (SSC Sub. Ins. 2015)
 (a) Nitric oxide (b) Nitrous oxide
 (c) Nitrate (d) Nitrite
461. Immunization technique was developed by (SSC Sub. Ins. 2015)
 (a) Louis Pasteur (b) Robert Koch
 (c) Joseph Lister (d) Edward Jenner

462. The hydrophilic nature of DNA is due to the presence of
(SSC Sub. Ins. 2015)
- a number of hydrogen bonds
 - phosphate group
 - deoxyribose sugar
 - thymine base
463. The sense of balance is achieved by
(SSC Sub. Ins. 2015)
- Cerebellum equilibrium
 - Thalamus equilibrium
 - Cerebrum equilibrium
 - Spinal cord equilibrium
464. Aluminium salt commonly used to stop bleeding is
(SSC Sub. Ins. 2015)
- Aluminium chloride
 - Aluminium nitrate
 - Aluminium sulphate
 - Potash alum
465. Total internal reflection cannot take place when light goes from:
(SSC Sub. Ins. 2015)
- water to glass
 - water to air
 - glass to air
 - glass to water
466. Interferons are synthesized in response to
(SSC Sub. Ins. 2015)
- mycoplasma
 - fungi
 - virus
 - bacteria
467. The first law of thermodynamics is simply the case of
(SSC Sub. Ins. 2015)
- Charle's law.
 - the law of conservation of energy
 - the law of heat exchange.
 - Newton's law of cooling.
468. Red rot of sugarcane is caused by (SSC Sub. Ins. 2015)
- Colletotrichum falcatum*
 - Cercospora personata*
 - Alternaria alternata*
 - Phytophthora infestans*
469. A clone is a group of individuals obtained through :
(SSC Sub. Ins. 2015)
- selfpollination
 - micropropagation
 - hybridisation
 - cross pollination
470. Chemical name of Gammmaxene is: (SSC Sub. Ins. 2015)
- Aniline
 - Toluene
 - Benzene hexachloride
 - Chloro benzene
471. The fleshy thalamus is edible in: (SSC Sub. Ins. 2015)
- Mango
 - Orange
 - Tomato
 - Apple
472. A new molecule Heat Shock Protein 90 (HSP90) was discovered in 2014 by the Didier Picard. The new discovery could help in effective treatment of ____
(SSC Sub. Ins. 2016)
- TB
 - AIDS
 - Malaria
 - None of these
473. Antigen presenting cells are specialized cells present in all of the following, except (SSC Sub. Ins. 2016)
- Skin
 - Lymph node
 - Kidney
 - Spleen
474. Which of the following determines whether a group of organisms that is from the same genus and species arise from a common source or from different sources?
(SSC Sub. Ins. 2016)
- Biotyping
 - DNA hybridization / DNA
 - Serotyping
 - Phage typing
475. Starch is insoluble in water but still it is stored in large quantity in potato because (SSC Sub. Ins. 2016)
- soil microorganisms deposit it in the tuber.
 - it is synthesized in potato root.
 - it is useful for human.
 - it is translocated in the form of sugar from leaves.
476. Viruses that infect bacteria are called (SSC Sub. Ins. 2016)
- Basal body
 - Basidiospores
 - Bacteriophages
 - Basophils
477. A dispersion indicates (SSC Sub. Ins. 2016)
- the value of standard deviation.
 - spread of data around central measure.
 - the value of mean
 - the value of mode
478. The principle involved in the absorption of water by soil is
(SSC Sub. Ins. 2016)
- Suction action
 - Condensation
 - Capillary action
 - Principal of absorption
479. Which of the following is present in maximum amount in acid rain?
(SSC Sub. Ins. 2016)
- HNO_3
 - H_2SO_4
 - H_2CO_3
 - HCl
480. The lethal dose required to kill 50% of the lab animals tested under standard is referred as (SSC Sub. Ins. 2016)
- MLD
 - ID_{50}
 - LD_{50}
 - ID
481. Wheat is a _____. (SSC CGL 2017)
- Creeper
 - Herb
 - Shrub
 - Tree
482. Snakes, turtle, lizards and crocodiles falls under which category of animals?
(SSC CGL 2017)
- Pisces
 - Amphibian
 - Reptilian
 - Aves
483. Which of the following instrument is used to measure Soil Water Tension?
(SSC CGL 2017)
- Photometer
 - Pyrometer
 - Psychrometer
 - Tensiometer
484. What is the SI unit of Force?
(SSC CGL 2017)
- Pascal
 - Boyle
 - Newton
 - Watt
485. Which one of the following is a bad Thermal Conductor?
(SSC CGL 2017)
- Aluminium
 - Copper
 - Glass
 - Silver
486. Rusting is _____. (SSC CGL 2017)
- Electrolysis
 - Oxidation
 - Redox reaction (Oxidation and Reduction)
 - Reduction

487. Which amongst the following is not a Cation?
(SSC CGL 2017)
- (a) Aluminium ion (b) Copper ion
(c) Sulphate ion (d) Zinc ion
488. Which of the following is not a component of Smog?
(SSC CGL 2017)
- (a) Volatile organic compounds
(b) Nitrogen Oxide
(c) Sulphur dioxide
(d) Chlorine oxide
489. Auxiliary bud develops into which of the following part of the plant?
(SSC CGL 2017)
- (a) Fruit (b) Leaf
(c) Branch (d) Roots
490. Xylem helps in transportation of which of the following?
(SSC CGL 2017)
- (a) Food (b) Water
(c) Nutrients (d) Both food and water
491. Who proposed five kingdom classification?
(SSC CGL 2017)
- (a) Ernst Mayr (b) R.H. Whittaker
(c) M.W. Beijerinck (d) D.I. Ivanovsky
492. What is the other name of Galileo's law of falling bodies?
(SSC CGL 2017)
- (a) Law of motion (b) Newton's first law
(c) Newton's second law (d) Newton's third law
493. Which of the following device is best suited for measuring the temperature inside metallurgical furnaces?
(SSC CGL 2017)
- (a) Pyrometer (b) Thermocouple
(c) Thermometer (d) Thermistor
494. Which acid is released when an Ant bites?
(SSC CGL 2017)
- (a) Hydrochloric Acid (b) Formic Acid
(c) Acetic Acid (d) Phosphoric Acid
495. Which among the following is an example of solid sol?
(SSC CGL 2017)
- (a) Milk of magnesia (b) Foam
(c) Acetic Acid (d) Phosphoric Acid
496. Which metal is responsible for Itai – Itai disease?
(SSC CGL 2017)
- (a) Cadmium (b) Nickel
(c) Chromium (d) Mercury
497. Cattle quickly swallow grass and store it in their _____.
(SSC CGL 2017)
- (a) rumen (b) esophagus
(c) small intestine (d) salivary glands
498. Which of the following carries oxygen to various parts of human body?
(SSC CGL 2017)
- (a) Red blood cells (b) White blood cells
(c) Plasma (d) Nerves
499. Which of the following function is performed by the kidneys in the human body?
(SSC CGL 2017)
- (a) Excretion (b) Respiration
(c) Digestion (d) Transportation
500. The bending of light when it passes around a corner or a slit is due to _____.
(SSC CGL 2017)
- (a) reflection (b) refraction
(c) diffraction (d) total internal reflection
501. What is the reason for formation of Mirage in desert?
(SSC CGL 2017)
- (a) Refraction of light
(b) Reflection of light
(c) Total internal reflection of light
(d) Both Refraction and Total internal reflection of light
502. Which of the following bonds are weakest in nature?
(SSC CGL 2017)
- (a) Single bond (b) Double bond
(c) Triple bond (d) Hydrogen bond
503. In the following reaction, fill in the blank.
Acid + Base ® _____ + Water.
(SSC CGL 2017)
- (a) Carbon dioxide (b) Metal Oxide
(c) Hydrogen Gas (d) Salt
504. Bishnoi movement was started against which of the following?
(SSC CGL 2017)
- (a) Cutting of Trees (b) Inequality of Women
(c) Killing of Animals (d) Increasing Pollution
505. Cinnamon is obtained from which part of the plant?
(SSC CGL 2017)
- (a) Stem (b) Bark
(c) Roots (d) Fruits
506. Insulin is a kind of _____.
(SSC CGL 2017)
- (a) hormone (b) Protein
(c) enzyme (d) vitamin
507. Which among the following carries impure blood to human heart?
(SSC CGL 2017)
- (a) Aorta (b) Pulmonary vein
(c) Pulmonary arteries (d) Vena Cava
508. Why does water tank appear shallower when viewed from the top?
(SSC CGL 2017)
- (a) Due to reflection
(b) Due to refraction
(c) Due to diffraction
(d) Due to total internal reflection
509. Which colour is formed when Red and Green are mixed?
(SSC CGL 2017)
- (a) Light blue (b) Yellow
(c) White (d) Grey
510. What is an endothermic reaction?
(SSC CGL 2017)
- (a) Reaction in which heat is released
(b) Reaction in which heat is absorbed
(c) Reaction in which neither heat is released nor absorbed
(d) None of these
511. Which of the following is an ore of Aluminium?
(SSC CGL 2017)
- (a) Galena (b) Cryolite
(c) Cinnabar (d) Epsom Salt

512. Which of the following gas was released during Bhopal gas tragedy? (SSC CGL 2017)
 (a) Methyl isocyanate
 (b) Sodium isothiocyanate
 (c) Nitrogen isothiocyanate
 (d) Potassium isothiocyanate
513. Which drug is used as an Anti-Anxiety drug? (SSC CHSL 2017)
 (a) Warfarin (b) Diazepam
 (c) Latanoprost (d) Hydralazine
514. *Ficus benghalensis* is the scientific name of _____. (SSC CHSL 2017)
 (a) Banyan (b) Pineapple
 (c) Babul (d) Tulsi
515. *Equus burchellii* is the scientific name of _____. (SSC CHSL 2017)
 (a) Horse (b) Zebra
 (c) Buffalo (d) Ass
516. Atomic number of which of the following elements is greater than that of Copper? (SSC CHSL 2017)
 (a) Iron (b) Chromium
 (c) Zinc (d) Manganese
517. Which of the following is false with reference to a photo-voltaic cell? (SSC CHSL 2017)
 (a) It is another name as solar cell
 (b) It can be used as infra-red detectors
 (c) It can store light energy in the form of electrical energy
 (d) It converts electric energy into light energy
518. Methane an air pollutant is produced _____. (SSC CHSL 2017)
 (a) by action of ultraviolet light on nitrogenous compounds.
 (b) as a by-product of manufacturing ammoniacal fertilizers
 (c) by burning of coal in insufficient air
 (d) by digestion of food by animals
519. Rate of work done is _____. (SSC CHSL 2017)
 (a) Energy (b) Power
 (c) Momentum (d) Impulse
520. What is the unit of the physical quantity, "Young's modulus"? (SSC CHSL 2017)
 (a) newton (b) erg
 (c) joule (d) pascal
521. Where is bile stored? (SSC Sub. Ins. 2017)
 (a) Liver (b) Kidney
 (c) Gall bladder (d) Spleen
522. Which of the following is not a connective tissue? (SSC Sub. Ins. 2017)
 (a) Adipose Tissue (b) Compact Bone
 (c) Cardiac Muscle (d) Areolar Tissue
523. Normally how many times the human heart beats in a minute? (SSC Sub. Ins. 2017)
 (a) 82 (b) 75
 (c) 72 (d) 85
524. Muscle fatigue occurs due to accumulation of _____. (SSC Sub. Ins. 2017)
 (a) ATP (b) ADP
 (c) Lactic Acid (d) Carbonic Acid
525. The inexhaustible source of energy of stars is due to _____. (SSC Sub. Ins. 2017)
 (a) Conversion of hydrogen to helium
 (b) Conversion of helium to hydrogen
 (c) Decay of radioactive elements.
 (d) Excess of oxygen
526. Which of the following waves has the highest frequency? (SSC Sub. Ins. 2017)
 (a) Radio (b) Infrared
 (c) Microwaves (d) Gamma-rays
527. Why the clear nights are cooler than the cloudy nights? (SSC Sub. Ins. 2017)
 (a) Conductance (b) Condensation
 (c) Radiation (d) Insulation
528. The subatomic particle that does not have any electric charge is a/an _____. (SSC Sub. Ins. 2017)
 (a) Electron (b) Proton
 (c) Neutron (d) All options are correct.
529. Which of the following gas is used in bulb? (SSC Sub. Ins. 2017)
 (a) Hydrogen (b) Carbon-dioxide
 (c) Carbon-mono-oxide (d) Argon
530. Chlorine gas is a major component of which of the following? (SSC Sub. Ins. 2017)
 (a) Water (b) Tear gas
 (c) Liquefied petroleum Gas (d) Gobar gas
531. What is Brine solution? (SSC Sub. Ins. 2017)
 (a) Excess salt + water (b) Silver
 (c) Excess Ethanol + water (d) Excess Starch + water
532. Which of the following primarily causes lead pollution? (SSC Sub. Ins. 2017)
 (a) CFL Lamp (b) Automobile Battery
 (c) polymer (d) Diesel Engine
533. What was the main aim of Montreal protocol? (SSC Sub. Ins. 2017)
 (a) Protection of Ozone layer
 (b) Bio- diversity Conservation
 (c) Global Warming
 (d) Climate Change
534. Supersonic jets cause thinning of which layer? (SSC Sub. Ins. 2017)
 (a) O₂ layer (b) O₃ layer
 (c) CO₂ layer (d) SO₂ layer
535. Biogas is formed through: (SSC MTS 2017)
 (a) Fermentation (b) Reduction
 (c) Aerobic respiration (d) Oxidation
536. Slow and uniform cooling of hot iron in its metallurgy is known as : (SSC MTS 2017)
 (a) chilling (b) annealing
 (c) quenching (d) tempering

537. In the context of alternative sources of energy, ethanol as a viable bio - fuel can be obtained from : **(SSC MTS 2017)**
 (a) Potato (b) Wheat
 (c) Sugarcane (d) Rice
538. Distant objects can be seen with the help of?
(SSC MTS 2017)
 (a) spectroscope (b) telescope
 (c) microscope (d) cronometer
539. Two gaseous molecules can react only when they have same _____.
(SSC MTS 2017)
 (a) energy (b) entropy
 (c) Free energy (d) orientation/steric factor
540. Brown ring test is used for the detection of _____.
(SSC MTS 2017)
 (a) sulphate (b) chlorate
 (c) phosphate (d) nitrate
541. The element involved with blood clotting is :
(SSC MTS 2017)
 (a) Iron (b) Phosphorus
 (c) Sodium (d) Calcium
542. Which type of function does the analytical engine perform?
(SSC MTS 2017)
 (a) Logical functions (b) Arithmetic functions
 (c) Control functions (d) Relational functions
543. The largest part of our brain is : **(SSC MTS 2017)**
 (a) Hypothalamus (b) Medulla oblongata
 (c) Cerebellum (d) Cerebrum
544. Insulin activates in _____.
(SSC Stenographer 2017)
 (a) Pancreas (b) Parathyroid
 (c) Thymus (d) Pituitary
545. Which among the following is not related to vitamin B complex group?
(SSC Stenographer 2017)
 (a) Riboflavin (b) Thaimin
 (c) Ascorbic acid (d) Folic acid
546. Viruses are usually made of which of the following?
(SSC Stenographer 2017)
 (a) Protein + Carbohydrates
 (b) Protein + Nucleic acid
 (c) Protein + Ascorbic Acid
 (d) Protein + Lipid
547. "Shrubs" are woody plants generally smaller and more compact than trees. Which of the following is not a shrub tree?
(SSC Stenographer 2017)
 (a) Sunflower (b) Rose-of-Sharon
 (c) Butterfly Bush (d) Barberry
548. A medical procedure, during which a small sample of tissue is removed from a part of the body, is _____.
(SSC Stenographer 2017)
 (a) MRI (b) CT Scan
 (c) Biopsy (d) All options are correct.
549. Which among the following is cryogenic engines are used?
(SSC Stenographer 2017)
 (a) In rocket technology
 (b) To run the navy ships
 (c) In frost free referigerators
 (d) All options are correct.
550. During photosynthesis light energy is converted into which of the following?
(SSC Stenographer 2017)
 (a) Mechanical energy (b) Chemical energy
 (c) Heat energy (d) Radiation energy
551. What is the reason of surface tension in a liquid?
(SSC Stenographer 2017)
 (a) Electrical force between molecules
 (b) Cohesive force between molecules
 (c) Adhesive force between molecules
 (d) Gravitational force between molecules
552. In which process there is gain of electron?
(SSC Stenographer 2017)
 (a) Decomposition (b) Reduction
 (c) Oxidation (d) Modification
553. Solder is an alloy made of which two metals?
(SSC Stenographer 2017)
 (a) Zinc and lead (b) Zinc and copper
 (c) Tin and zinc (d) Tin and lead
554. An increase in which of the following gases leads to global warming?
(SSC Stenographer 2017)
 (a) Oxygen (b) Carbon dioxide
 (c) Sulphur dioxide (d) Ozone
555. What is the popular name of 'Ascorbic Acid'?
(SSC CGL 2018)
 (a) Vitamin A (b) Vitamin B 12
 (c) Vitamin K (d) Vitamin C
556. The explosion of crackers is an example of _____.
(SSC CGL 2018)
 (a) Combustion (b) Precipitation
 (c) Decomposition (d) Evaporation
557. Which of the following is a vestigial organ?
(SSC CGL 2018)
 (a) Heart (b) Kidney
 (c) Lungs (d) Appendix
558. What is the dominant chemical present in vinegar?
(SSC CGL 2018)
 (a) Malic acid (b) Formic acid
 (c) Sulphuric acid (d) Ethanoic acid
559. In which part of the body is blood produced?
(SSC CGL 2018)
 (a) Bone Marrow (b) Lungs
 (c) Brain (d) Heart
560. Identify the part of brain that controls the maintenance of posture, balance and equilibrium.
(SSC CGL 2018)
 (a) Diencephalon (b) Brainstem
 (c) Cerebrum (d) Cerebellum
561. Wind turbines convert _____ energy into mechanical power.
(SSC CGL 2018)
 (a) chemical (b) nuclear
 (c) gravitational (d) kinetic

562. The High Yielding Varieties (HYVs) of wheat were first developed in _____. (SSC CHSL 2018)
 (a) Australia (b) Mexico
 (c) USA (d) Japan
563. Which of the following fuels has calorific value equal to petrol? (SSC CHSL 2018)
 (a) Methane (b) Kerosene
 (c) CNG (d) LPG
564. In which of the following organs of human body are carbohydrates stored as glycogen? (SSC CHSL 2018)
 (a) Stomach (b) Liver
 (c) Small intestine (d) Large intestine
565. Under the Sustainable Alternative Towards Affordable Transportation (SATAT) scheme, _____ is being promoted as an alternative transport fuel. (SSC CHSL 2018)
 (a) CNG (b) compressed biogas
 (c) LPG (d) hydrogen
566. Which of the following is NOT a valve of the Heart? (SSC CHSL 2018)
 (a) Mitral (b) Aortic
 (c) Tricuspid (d) Septum
567. _____ are called suicidal bags of the cell. (SSC Sub. Ins. 2018)
 (a) Ribosomes (b) Lysosomes
 (c) Golgi Apparatus (d) Mitochondria
568. Which of the following is the universal recipient blood group? (SSC Sub. Ins. 2018)
 (a) O (b) A
 (c) AB (d) B
569. Enzymes are _____ that act as catalysts within the living cells. (SSC Sub. Ins. 2018)
 (a) proteins (b) carbohydrates
 (c) vitamins (d) calcium
570. Which element is used to make the coils used in water heaters? (SSC Sub. Ins. 2018)
 (a) A mixture of aluminium and copper
 (b) A mixture of iron and steel
 (c) Nichrome
 (d) Copper
571. A January 2019 study by the scientists from National Chemical Laboratory, Pune suggested measuring levels of free albumin and albumin attached to glucose molecules in the blood as a diagnostic test for _____. (SSC Sub. Ins. 2018)
 (a) Diabetes (b) Thyroid
 (c) Piles (d) Tuberculosis
572. In humans, fertilisation usually takes place in the _____. (SSC Sub. Ins. 2018)
 (a) Uterus (b) Fallopian tube
 (c) Ovary (d) Vagina
573. The _____ in the human body controls every activity that you perform. (SSC Sub. Ins. 2018)
 (a) digestive system (b) respiratory system
 (c) reproductive system (d) nervous system
574. The Tyndal Effect is due to: (SSC Sub. Ins. 2018)
 (a) Refraction of Light (b) Dispersion of Light
 (c) Scattering of Light (d) Reflection of Light
575. Which of the following is the structural and functional unit of kidneys? (SSC Stenographer 2018)
 (a) Nephron (b) Pits
 (c) Nutrofil (d) Tentacle
576. What is the frequency range of audible waves?
 (a) 20 Hz–20000 Hz (b) 21000–24000 Hz
 (c) 25000–30000 Hz (d) 31000–40000 Hz
577. Shadows are formed when a _____ object comes in the path of light. (SSC Stenographer 2018)
 (a) Opaque (b) Transparent
 (c) Luminous (d) Translucent
578. The mixture of flammable gases (carbon monoxide and hydrogen) and nonflammable gases (nitrogen and carbon dioxide) is called by what name? (SSC Stenographer 2018)
 (a) Laser Star Gas (b) Breathing Gas
 (c) Producer Gas (d) Laughing Gas
579. Hygrometer is a device which is used to measure _____. (SSC Stenographer 2018)
 (a) Temperature (b) Fragrance
 (c) Relative humidity (d) Pressure
580. Sound waves having frequency less than 20 Hz are called _____ waves. (SSC Stenographer 2018)
 (a) Intelligent (b) Inferior
 (c) Infrasonic (d) Instrumental
581. The waves which can propagate even through the vacuum, are called _____. (SSC Stenographer 2018)
 (a) Mechanical waves (b) Reverse waves
 (c) Inverted waves (d) Electromagnetic waves
582. Which of the following branch deals with the various principles that govern the relationship between organisms and their environment? (SSC Stenographer 2018)
 (a) Histology (b) Ecology
 (c) Entomology (d) Anthropology
583. Which is the respiratory organ of fish? (SSC Stenographer 2018)
 (a) Ears (b) Gills
 (c) Skin (d) Lungs
584. Which pigment gives pale yellow color to urine? (SSC Stenographer 2018)
 (a) Erithromycin (b) Amoxlylin
 (c) Urochronie (d) Unicom
585. Which of these bones is NOT a part of the human ear? (SSC CGL 2019-20)
 (a) Incus (b) Stapes
 (c) Femur (d) Malleus
586. Who among the following played the leading lady in the film 'Mission Mangal' that tells the dramatic true story of the women behind India's first mission to Mars? (SSC CGL 2019-20)
 (a) Deepika Padukone (b) Vidya Balan
 (c) Kajol (d) Kareena Kapoor

587. What is the more common name for solid carbon dioxide ?
 (a) Potash (b) Quick Silver (SSC CGL 2019-20)
 (c) Epsom (d) Dry Ice
588. From India, who inaugurated the Kartarpur Corridor and flagged off the first set of pilgrims to the final resting place of Sikhism founder Guru Nanak Dev ? (SSC CGL 2019-20)
 (a) Manmohan Singh (b) Narendra Modi
 (c) Ram Nath Kovind (d) Amarinder Singh
589. Red worms have a structure named _____ which helps them in grinding their food. (SSC CGL 2019-20)
 (a) Intestine (b) Crop
 (c) Esophagus (d) Gizzard
590. Which of these words refers to the scientific study of domestic dogs ? (SSC CGL 2019-20)
 (a) Cynology (b) Craniology
 (c) Carpology (d) Chrematistics
591. Name the physicist who is credited with the discovery of the Neutron. This 1932 discovery led to his winning the Nobel Prize. (SSC CGL 2019-20)
 (a) Max Plank (b) J. S. Fleming
 (c) Enrico Fermi (d) James Chadwick
592. Silver Fiber Revolution is associated to : (SSC MTS 2019-20)
 (a) Leather (b) Oil seeds
 (c) Jute (d) Cotton
593. The upper part of the respiratory tract is provided with small hair-like structures called _____. (SSC MTS 2019-20)
 (a) bronchi (b) cilia
 (c) villi (d) alveoli
594. Which of the following gas causes explosion in coal mines? (SSC MTS 2019-20)
 (a) Carbon dioxide (b) Nitrogen
 (c) Butane (d) Methane
595. Who is known as the father of Blue Revolution in India? (SSC MTS 2019-20)
 (a) Verghese Kurien (b) Sam Pitroda
 (c) Hiralal Chaudhari (d) M.S. Swaminathan
596. _____ is the study of ancient plants, like mosses, that grow in moist, humid environments. (SSC MTS 2019-20)
 (a) Ethonobotany (b) Bryology
 (c) Palynology (d) Dendrology
597. Which country is to train Indian flight surgeons to enable them to monitor the health of astronauts selected for the human space mission Gaganyaan? (SSC CHSL 2019-20)
 (a) Russia (b) USA
 (c) China (d) France
598. Which of the following divisions of plants does NOT have a well differentiated body? (SSC CHSL 2019-20)
 (a) Gymnosperms (b) Bryophyta
 (c) Thallophyta (d) Pteridophyta
599. What is the symbol of Tin? (SSC CHSL 2019-20)
 (a) Ti (b) Si
 (c) Ta (d) Sn
600. What is the approximate speed of sound in distilled water at 25°C (77°F)? (SSC CHSL 2019-20)
 (a) 1598 m/s (b) 1284 m/s
 (c) 1498 m/s (d) 3980 m/s
601. How many arteries are there in an umbilical cord? (SSC CGL 2020-21)
 (a) Three (b) Four (c) One (d) Two
602. For a wave, wavelength divided by the time period is equal to: (SSC CGL 2020-21)
 (a) Phase difference (b) frequency
 (c) wave velocity (d) amplitude
603. Carbon and energy requirements of an autotrophic organism are fulfilled by _____. (SSC CGL 2020-21)
 (a) locomotion (b) photosynthesis
 (c) respiration (d) glycogenation
604. Viscose fibre is obtained from _____. (SSC CGL 2020-21)
 (a) Coal (b) Cellulose
 (c) Oil (d) Petrochemicals
605. Lymph is a light clear fluid made up of white blood cells that attack harmful _____ in the blood. (SSC CGL 2020-21)
 (a) Viruses (b) Bacteria
 (c) Fungi (d) Protozoa
606. Which of the following gases is released in the process of photosynthesis? (SSC CHSL 2020-21)
 (a) Nitrous dioxide (b) Oxygen
 (c) Nitrogen (d) Carbon dioxide
607. Which of the following factors is NOT responsible for soil formation? (SSC CHSL 2020-21)
 (a) Parent material (b) Cattle grazing
 (c) Biotic agents (d) Topography
608. Rickets and night-blindness are caused by the deficiency of _____ and _____, respectively. (SSC CHSL 2020-21)
 (a) Vitamin D, Vitamin A (b) Vitamin D, Vitamin C
 (c) Vitamin E, Vitamin A (d) Vitamin B1, Vitamin C
609. Swollen bluish veins resulting from the valves that do not close properly are called _____. (SSC CHSL 2020-21)
 (a) Varicose Veins (b) Superficial Veins
 (c) Systemic Veins (d) Deep Veins
610. Which of the following is the name of the spacecraft developed by Space X for NASA's manned mission to international Space Station? (SSC Multitasking 2020-21)
 (a) Crew Centaurus
 (b) Crew Aries
 (c) Crew Shark
 (d) Crew Dragon
611. Which of the following is the name of the NASA programme to land first woman and next man on the Moon by 2024? (SSC MTS 2020-21)
 (a) Orion (b) Nike
 (c) Apollo (d) Artemis
612. In which of the following months may the meteor shower named Lyrids be seen from Earth? (SSC MTS 2020-21)
 (a) February (b) April
 (c) June (d) August

613. Which of the following diseases is caused by a protozoa parasite of Leishmania species? **(SSC MTS 2020-21)**
 (a) Malaria (b) Kala Azar
 (c) Polio (d) Chikungunya
614. The speed of light in vacuum is: **(SSC Stenographer 2020-21)**
 (a) 399,792.458 km/s (b) 499,792.458 km/s
 (c) 199,792.458 km/s (d) 299,792.458 km/s
615. Which of the following members of the animal kingdom a four-chambered heart? **(SSC Stenographer 2020-21)**
 (a) Amphibians
 (b) Reptiles (except crocodiles)
 (c) Fishes
 (d) Birds
616. In terms of their magnetic properties, the elements named nickel and cobalt are classified as: **(SSC Stenographer 2020-21)**
 (a) Paramagnetic (b) Anti-ferromagnetic
 (c) Ferromagnetic (d) Diamagnetic
617. Nitrate esters are used in making _____ **(SSC Stenographer 2020-21)**
 (a) pesticides (b) manure
 (c) explosives (d) soaps
618. What is the unit of energy in the International System of Units? **(SSC Stenographer 2020-21)**
 (a) Fahrenheit (b) Celsius
 (c) Kelvin (d) Joule
619. Which of the following is measure in its S-derived unit called Tesla? **(SSC Stenographer 2020-21)**
 (a) Magnetic flux density (b) Luminous flux
 (c) Capacitance (d) Illuminance
620. Which among the following produce bile in the human body? **(SSC Stenographer 2020-21)**
 (a) Lungs (b) Stomach
 (c) Kidney (d) Liver
621. Which among the following is classified under Gymnoperms? **(SSC Stenographer 2020-21)**
 (a) Pinus (b) Chara
 (c) Funaria (d) Ulva
622. _____ is the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems. **(SSC Stenographer 2020-21)**
 (a) Epidemiology (b) Ontology
 (c) Saurology (d) Haematology
623. If the size of the nucleus of an atom is compared with a cricket ball, then the radius of the atom is approximately equal to how many kilometres? **(SSC Sub-Inspector 2020-21)**
 (a) 0.5 (b) 0.005 (c) 0.05 (d) 5
624. The difference in temperature between two bodies is 30 degree centigrade. What is the difference in degree Fahrenheit? **(SSC Sub-Inspector 2020-21)**
 (a) 64 (b) 54 (c) 86 (d) 72
625. 'Femto' means ten raised to the power of _____. **(SSC Sub-Inspector 2020-21)**
 (a) -16 (b) -15 (c) -20 (d) -12
626. Which one among the following measures the same quantity as that is measured by the SI unit 'pascal'? **(SSC Sub-Inspector 2020-21)**
 (a) watt (b) torr (c) newton (d) joule
627. In the Millikan's Oil Drop experiment, the oil drop is subjected to such forces whose nature does NOT fall under the category of: **(SSC Sub-Inspector 2020-21)**
 (a) viscous (b) gravitational
 (c) electrostatic (d) magnetostatic
628. Polio is caused by which of the following organisms? **(SSC Sub-Inspector 2020-21)**
 (a) Protozoa (b) Bacteria
 (c) Fungi (d) Virus
629. What is the Atomic Number of the element Einsteinium? **(SSC Sub-Inspector 2020-21)**
 (a) 98 (b) 101 (c) 99 (d) 100
630. Conjunctivitis is an infection primarily related to **(SSC Sub-Inspector 2020-21)**
 (a) Stomach (b) Heart
 (c) Eye (d) Knee

HINTS & EXPLANATIONS

1. (b) A concave lens is also known as a “biconcave lens” because of two spherical surfaces bulging inwards. A Concave lens always forms an image which is virtual and erect. Concave lenses are used as a correction for myopia or short nearsightedness because it converges the light rays passing through it. It is also used in binoculars and some telescopes.
2. (a) Vitamin B-12, also called cobalamin, is a water-soluble vitamin that has a key role in the normal functioning of the brain and nervous system, and the formation of red blood cells.
3. (d) Chloropicrin is a chemical compound currently used as a broad-spectrum antimicrobial, fungicide, herbicide, insecticide, and nematocide. Chloropicrin is harmful to humans. It can be absorbed systemically through inhalation, ingestion, and the skin. At high concentrations it is severely irritating to the lungs, eyes, and skin.
4. (c) Modulus of rigidity is defined as the ratio of shear stress to the shear strain: where shear stress is the force which acts is the area on which the force acts is shear strain. The SI unit of Modulus of Rigidity is pascal (pa).
5. (a) Air at atmospheric pressure is a nearly ideal gas, and sound transmission in air is close to adiabatic for normal frequencies and transmission distances. The total internal energy of the gas through which sound travels remains same.
6. (b) Caesium is a chemical element. It is a soft, silvery-golden alkali metal with a melting point of 28.5 °C (83.3 °F), which makes it one of only five elemental metals that are liquid at or near room temperature. It is used as a getter, a material that combines with and removes trace gases from vacuum tubes. It is also used in atomic clocks, in photoelectric cells and as a catalyst in the hydrogenation of certain organic compounds.
7. (a) The plasma membrane is composed of a phospholipid bilayer. Phospholipids are lipids with a phosphate group attached to them. The phospholipids have one head and two tails. The head is polar and hydrophilic, or water-loving. The tails are nonpolar and hydrophobic.
8. (b) Mitochondria are called the powerhouse of a cell because they produce energy for the functioning of a cell. Energy is produced by the oxidation of food by the process of respiration.
9. (b) Vinegar is a liquid that is produced from the fermentation of ethanol into acetic acid. Vinegar consists of acetic acid (CH_3COOH), water and trace amounts of other chemicals, which may include flavorings.
10. (a) Boiling point of heavy water is higher than that of ordinary water.
11. (a) Respiration is the process in which organisms exchange gases between their body cells and the environment. From prokaryotic bacteria and archaeans to eukaryotic protists, fungi, plants, and animals, all living organisms undergo respiration.
12. (a) Arboreal animals are creature who spend the majority of their lives in trees. They eat, sleep and play in the tree canopy. There are thousands of species that live in trees, including monkeys, koalas, possums, sloths, various rodents, parrots, chameleons, geckos, tree snakes and a variety of insects.
13. (d) In input frequency of a full wave rectifier be n , then the output frequency would be $2n$.
14. (d) Advection is the transfer of heat or matter by the flow of a fluid, especially horizontally in the atmosphere or the sea.
15. (d) The decibel (dB) is the unit used to measure the intensity of a sound or noise. It is a logarithmic expression of the ratio between two signal power, voltage, or current levels. Decibels (dB) are defined in terms of power per unit surface area on a scale from the threshold of human hearing, 0 dB, upward towards the threshold of pain, about 120-140 dB.
16. (d) Bats are good at flying at night because they use sound rather than sight to navigate. Bats send pulses of sound through their mouths or noses, and these pulses echo back outlining the objects in the bats flight path. The ears of a bat are large and oddly constructed but they help it to determine where the echoes are coming from.
17. (c) No change will happen.
18. (b) Cartography, the art and science of graphically representing a geographical area, usually on a flat surface such as a map or chart. It may involve the superimposition of political, cultural, or other non geographical divisions for the representation of a geographical area.
19. (c) A silver halide is one of the chemical compounds that can form between the element silver and one of the halogens. Silver halides are light-sensitive chemicals, and are commonly used in photographic film and paper.
20. (d) An antiknock agent is a gasoline additive used to reduce engine knocking and increase the fuel's octane rating by raising the temperature and pressure at which auto ignition occurs.
The typical antiknock agents in use is Tetraethyllead.

21. (b) Curie temperature (TC), or Curie point, is the temperature above which certain materials lose their permanent magnetic properties, which can (in most cases) be replaced by induced magnetism. The Curie temperature is named after Pierre Curie, who showed that magnetism was lost at a critical temperature.
22. (a) The isotope used for the production of atomic energy is Uranium-235 (U-235). U-235 is an isotope of uranium making up about 0.72% of natural uranium. Uranium occurs in most rocks in concentrations of 2 to 4 parts per million and is as common in the Earth's crust as tin, tungsten and molybdenum. Uranium occurs in seawater, and can be recovered from the oceans. It was discovered in 1935 by Arthur Jeffrey Dempster.
23. (a) The equatorial bulge and the effects of the surface centrifugal force due to rotation results in lower acceleration due to gravity at Equator than that at the poles.
24. (d) A nucleon of an atom consists of either a proton or a neutron. Positrons are not present in a normal atom and are only produced during radioactive decay.
25. (a) Graphite is a crystalline form of the element carbon with its atoms arranged in a hexagonal structure. It occurs naturally in this form and is the most stable form of carbon under standard conditions. It is a native element mineral found in metamorphic and igneous rocks. It is used in the manufacture of lead pencil.
26. (a) Angle of friction and angle of repose are equal to each other. Angle made by the resultant of normal reaction and limiting frictional force with the normal reaction is called angle of friction. The minimum angle of the plane at which the body kept on it starts to slide due to its own weight is called angle of repose.
27. (c) If a patient receives a blood type that is incompatible, antibodies that the patient already has in his or her blood will attack the donor red blood cells and destroy them. This could cause fever, chills, chest or back pain, bleeding, increased heart rate, shortness of breath, rapid drop in blood pressure, and/or kidney damage.
28. (b) Bullets fired from gun contain lead which when not removed from the body of an injured body may cause toxic effect.
29. (d) Ringworm is a contagious fungal infection caused by mold-like parasites that live on the cells in the outer layer of your skin. It can be spread in the following ways: Human to human.
30. (b) The pituitary gland is a part of endocrine system. Its main function is to secrete hormones into bloodstream. These hormones can affect other organs and glands, especially: thyroid. It is a protrusion off the bottom of the hypothalamus at the base of the brain. The pituitary gland is very important as it takes messages from the brain (via a gland called the hypothalamus) and uses these messages to produce hormones that affect many parts of the body, including stimulating all the other hormone-producing glands to produce their own hormones.
31. (b) Salivary gland contains an enzyme called ptyalin which breaks down starch into simpler sugars such as maltose and dextrin that can be further broken down in the small intestine.
32. (c) The femur is the proximal bone of the hindlimb in tetrapod vertebrates. the femur serves an important weight-bearing function and is an essential component of the lower kinetic chain. The robust shape of the femur provides many sturdy attachment points for the powerful muscles of the hip and knee that contribute to walking and other propulsive movements.
33. (d) The time period of a pendulum is inversely proportional to gravity. The gravity of the Moon is six times less than that of the Earth, hence the time period of a pendulum on the Moon is more than that on the Earth.
34. (b) The function of ball bearings in a wheel is to convert kinetic friction into rolling friction.
35. (c) shock absorbers are hydraulic (oil) pump like devices that help to control the impact and rebound movement of your vehicle's springs and suspension. Along with smoothening out bumps and vibrations, the key role of the shock absorber is to ensure that the vehicle's tyres remain in contact with the road surface at all times.
36. (d) Propellant is the chemical mixture burned to produce thrust in rockets and consists of a fuel and an oxidizer. An oxidizer is an agent that releases oxygen for combination with a fuel. In combination with an oxidizer such as liquid oxygen, liquid hydrogen yields the highest specific impulse, or efficiency in relation to the amount of propellant consumed, of any known rocket propellant.
37. (c) Gypsum is a naturally occurring mineral mined from deposits formed by ancient seabeds as a raw material. Composed of calcium sulfate and water, it is used for a variety of manufacturing, industrial, and agricultural uses. Portland cement produced by heating limestone and clay minerals in a kiln to form clinker, grinding the clinker, and adding 2 to 3 percent of gypsum. The addition of gypsum to Portland cement helps in preventing rapid setting of cement.
38. (b) The most common use for asbestos is as a cement additive. By adding asbestos to a mixture of cement, the tensile strength of a sheet of cement would be increased 10 fold. Workers working in the cement industry are exposed to asbestos, getting infected with white lung disease.
39. (c) Iodoform is the organoiodine compound with the formula CHI_3 . A chemical reaction in which a methyl ketone is oxidized to a carboxylate by reaction with aqueous HO^- and I_2 . The reaction also produces iodoform (CHI_3). Iodoform is used as an antiseptic.
40. (d) An artificial ecosystem is represented by aquarium. An aquarium is a vivarium of any size having at least one transparent side in which aquatic plants or animals are kept and displayed.

41. (d) Lead in automobile exhaust is carcinogenic to humans causing lung cancer.
42. (a) The optimum dissolved oxygen level (in mg/litre) required for survival of aquatic organisms is 4-6.
43. (a) Keibul Lamjao National Park in the Bishnupur district of Manipur is the only floating park in the world.
44. (c) Edward Jenner is well known around the world for his innovative contribution to immunization and the ultimate eradication of "Small Pox" (1796). Jenner is often called "the father of immunology", and his work is said to have "saved more lives than the work of any other human".
45. (c) seed is associated with Cotton. BT is a family of proteins originating from strains of the bacterium *Bacillus thuringiensis*. There are more than 200 different types of BT toxins, each affecting different types of insects.
46. (c) Monazite is a primary ore of several rare earth metals most notably thorium, cerium and lanthanum. Thorium is a highly radioactive metal and could be used as a replacement for uranium in nuclear power generation. Monazite sand deposits are inevitably of the monazite-(Ce) composition.
47. (c) In coriander, the useful parts are leaves and dried fruits. Coriander is an annual herb in the family Apiaceae. It is also known as Chinese parsley, and in North America the stems and leaves are usually called cilantro.
48. (a) Amla is called Herbal Indian Doctor because it is used to cure many ailments naturally.
49. (d) Blood is normally slightly basic, with a normal pH range of 7.35 to 7.45. Usually the body maintains the pH of blood close to 7.40.
50. (a) Endocrine glands are tissues or organs that excrete chemical substances (hormones) directly into the blood. Common endocrine glands are the hypothalamus, pineal, and adrenal glands. The thyroid gland is found in your throat, just below the jaw. This gland secretes a number of hormones that act on your metabolism. It is the largest endocrine gland in the body.
51. (b) Whale is the largest mammal.
52. (c) The second incisors of the elephant are modified into the huge tusks of an elephant. Tusks are used for defense, offense, digging, lifting objects, gathering food, and stripping bark to eat from trees. They also protect the sensitive trunk, which is tucked between them when the elephant charges.
53. (d) An optical fiber is a thin fiber of glass or plastic that can carry light from one end to the other. The study of optical fibers is called fiber optics. Optical fibers are based on the phenomenon of total internal reflection.
54. (a) The yellow lamps as street lights use low-pressure sodium-vapour lamps which emits monochromatic yellow light. The sodium-vapour lamp is a gas-discharge lamp that uses sodium in an excited state to produce light at a particular wavelength.
55. (c) Mirage formation is a result of the refraction and the total internal reflection of light in the air. Mirages happen when the ground is very hot and the air is cool. The hot ground warms a layer of air just above the ground. A layer of very warm air near the ground refracts the light from the sky nearly into a U-shaped bend. Our brain thinks the light has travelled in a straight line.
56. (d) Due to scattering of light the sky appears blue. The Blue light due to its shorter wavelength is scattered more than other colors and hence sky appears blue.
57. (b) Flint glass is generally used for making lenses and prisms. It is highly refractive lead-containing glass and absorbs most ultraviolet light but comparatively little visible light.
58. (a) Vulcanization is a chemical process for converting natural rubber or related polymers into more durable materials by the addition of sulfur.
59. (c) The addition of borax to the pyrex glass resulting in providing extra strength. It provides the glass extra resistance to prevent breakage under heating or cooling.
60. (d) Radon emits radiation which kills cancerous cells. Although radon is not as widely used for the treatment of cancer now a days.
61. (c) This process usually occurs in the upper third part of the fallopian tube of the woman.
62. (d) Cirrhosis is a condition in which the liver does not function properly due to long-term damage. Cirrhosis is most commonly caused by alcohol, hepatitis B, hepatitis C, and non-alcoholic fatty liver disease.
63. (c) The food webs we see are grazing food chains since at their base are producers which the herbivores graze on.
64. (d) Weight of 1 mole of water (H_2O) = 18 gm
Therefore, weight of 10 moles of water = 180 gm
65. (a) Carrot is rich in Vitamin A and it improves eyesight.
66. (d) The reason for this is the hydrogen bonding between neighboring water molecules. Because hydrogen bonding is a relatively strong intermolecular force, high heat energy is required to break up the force.
67. (a) Valence electrons are important in determining how an element reacts chemically with other elements. Since the valence electrons are the electrons in the highest energy level, they are the most exposed of all the electrons, so they are the electrons that get most involved in chemical reactions.
68. (c) The lumen is the SI derived unit of luminous flux, a measure of the total "amount" of visible light emitted by a source.
69. (d) A dissipative force counteracts motion. Its direction is opposite to the direction of the velocity vector. Dynamic friction is a dissipative (non-conservative) force. It dissipates energy (mainly through heat and sound), and energy lost by moving in one direction.

70. (c) As the length increases and the cross sectional area decreases, the electrical resistance of the wire also rises.
71. (b) Consequent Poles are magnetic poles that exist where the specimen has been successively magnetized in different sections to create more than two poles e.g., two north poles with one south pole between them.
72. (b) Fructose, or fruit sugar, is one of the three dietary monosaccharide, along with glucose and galactose, which is absorbed directly into the bloodstream during digestion.
73. (c) Methylated spirit contains mostly ethanol. Methylated spirit is a mixture of ethyl alcohol (95%) and methyl alcohol (5%). Methyl alcohol is poisonous and is added to prevent the methylated spirit being used as cheap drinking alcohol.
74. (c) A sporozoite is the cell form that infects new hosts. In plasmodium, for instance, the sporozoites are cells that develop in the mosquito's salivary glands, leave the mosquito during a blood meal, and enter liver cells (hepatocytes) where they multiply.
75. (c) Ex-situ conservation is the process of protecting an endangered species of plant or animal outside of its natural habitat. Zoos and botanical gardens are the most conventional methods of ex-situ conservation. Endangered plants may also be preserved in part through seed banks or germplasm banks.
76. (b) Diatom ooze (formed from microscopic unicellular algae having cell walls consisting of or resembling silica) is the most widespread deposit in the high southern latitudes.
77. (b) Photosynthetic Chromatophores vesicles found in some purple bacteria constitute one of the simplest light-harvesting systems in nature.
78. (a) Convex mirrors reflect light outwards; therefore they are not used to focus light. So, the convex mirror has a wide field of view and hence is used as rear view mirror as it gives a clear diminished and an erect image of the vehicle that is behind.
79. (b) The principal components of pyroligneous acid are acetic acid, acetone and methanol. It was once used as a commercial source for acetic acid.
80. (c) UCIL produce batteries, carbon products, welding equipment, plastics, industrial chemicals, pesticides, and marine products.
81. (a) Most drying oils owe their drying properties to the presence of a large percentage of linolenic acid (which derives its name from "linseed"), which is highly unsaturated.
82. (a) Carotenoids are tetraterpenoid organic pigments that are naturally occurring in the chloroplasts and chromoplasts of plants and some other photosynthetic organism like algae, some bacteria, and some types of fungus.
83. (b) Close to the surface of the Sun, the light it emits is not in parallel beams at all. It sends photons out in pretty much every direction at random. But the Sun is far away from Earth. Most of those photons don't reach the Earth because they're heading in the wrong direction. Only those photons that happen to be heading toward the Earth actually get there - and the photons that are heading to the Earth are all heading in more or less the same direction. So the photons that actually reach the Earth are all travelling in more or less parallel directions.
84. (a) Polar bears, which pile on fat to survive hibernation and yet do not become diabetic, hold clues for treating Type II diabetes, a disease associated with obesity that afflicts more than 190 million people worldwide, reaching epidemic proportions in many countries.
85. (d) All electromagnetic waves regardless of their wavelengths, including all colors of light, have the identical speed in a vacuum.
86. (b) In hydroelectric power plants the potential energy of water is utilized to produce electricity. The height of water in the reservoir decides how much potential energy water possesses.
87. (c) In people with emphysema, the lung tissue involved in exchange of gases (oxygen and carbon dioxide) is impaired or destroyed. Emphysema is included in a group of diseases called chronic obstructive pulmonary disease (COPD).
88. (c) Potassium Nitrate occurs as a mineral niter and is a natural solid source of nitrogen. Potassium nitrate is one of several nitrogen-containing compounds collectively referred to as saltpeter.
89. (a) Eutrophication is the gradual increase in the concentration of phosphorus, nitrogen, and other nutrients in an aquatic ecosystem such as a lake. Due to nutrient salts excessive structural changes takes place in the ecosystem such as increased production of algae and aquatic plants, depletion of fish species, general deterioration of oxygen and water quality etc.
90. (b) Out of the given alternatives the best way to maintain a natural equilibrium between the pest and the predator is by using biological control.
91. (b) Dry ice is the solid form of carbon dioxide. It is used primarily as a cooling agent. Its advantages include lower temperature than that of water ice and not leaving any residue.
92. (a) Ferromagnetic substances are those which gets strongly magnetised when placed in an external magnetic field. Iron, cobalt etc. are examples of ferromagnetic substances.
93. (d) The pinhole camera works on the concept of the rectilinear propagation of light. Each point on the surface of an illuminated object reflects rays of light in all directions. The small hole in the camera lets through a certain number of these rays which continue on their course until they meet the projection plane where they produce a reverse image of the object.
94. (c) With the rise of temperature, the velocity of gas molecules increases, increasing the kinetic energy.

95. (d) sex of a child is determined at the time of conception. When the child is conceived, sperm carrying X or Y chromosome fertilizes with egg which carries only X. Depending upon the X or Y from sperm it resulted into female or male progeny.
96. (a) Producers, consumers and decomposers are the major components of a food chain. Although all the components are important, the decomposers use the energy available in dead organisms; break them down into useful nutrients; recycle and maintain the nutrients back to the soil.
97. (b) Chimpanzee is most closest to the modern man.
98. (b) A gram of fertile agricultural soil generally contains between 100 million and 1 billion bacteria.
99. (c) During a reduction reaction, addition of one or more electrons/addition of hydrogen or removal of oxygen takes place.
100. (d) Tetraethyllead is an organolead compound used as a petro-fuel additive that allowed engine compression to be raised substantially. This in turn increased vehicle performance.
101. (d) Rickets is caused by deficiency of Vitamin-D. Deficiency of Vitamin-E causes hemolysis, sterility among various disorders.
102. (a) Wool under certain conditions releases ammonia following destructive distillation.
103. (a) During respiration CO_2 and water is released along with generation of energy rich molecules-ATP.
104. (b) Global network of daily temperature record created around 1920.
105. (d) Sex hormones like estrogen, progesterone, testosterone etc. are mainly steroidal in nature.
106. (c) Two pollutants emitted by motor vehicles react to form ground-level ozone or smog which can cause respiratory problems and reduce visibility.
107. (b) Green glands in some crustaceans have an excretory function and open at the bases of the larger antennae.
108. (b) The exchange of gases during respiration takes place through diffusion. At the respiratory membrane, where the alveolar and capillary walls meet, gases move across the membranes, when O_2 enters the bloodstream and CO_2 exits.
109. (c) Cardiac muscle is an involuntary striated muscle tissue found only in the organ heart. Involuntary muscles are smooth muscles that are not directly controllable at will. For example You don't have to remind yourself to make your heart beat, so it is involuntary. Voluntary muscles are controllable like those found in arms, legs, hands, etc.
110. (a) Soil salinity are measured by passing an electric current between the two electrodes of a Conductivity meter (salinity meter) in a sample of soil.
111. (c) Ringworm is common disease, especially among children. It is caused by a fungus, not a worm like the name suggests. It is a common and highly infectious skin infection that causes a ring-like red rash on the skin.
112. (a) Chickenpox is caused by the varicella-zoster virus. Variola virus is the causative organism of smallpox.
113. (a) Instruments can be shielded from outside magnetic effects by surrounding them with iron shield, generally of high permeability.
114. (d) Marble, chalk and limestone are all carbonates of calcium, whereas slaked lime is calcium hydroxide.
115. (c) Centrifugal force is an example of a pseudo-force, that is, an apparent force to someone whose frame of reference is not at rest or moving with a constant velocity. In the case of centrifugal force, the frame of reference is rotating.
116. (d) Pascal's law states that increase in pressure at a point in the enclosed liquid in equilibrium is transmitted equally in all directions in liquid and to the walls of the container. hydraulic brakes works on this principle.
117. (c) Organic reaction used to convert a primary amide to a primary amine is known as the Hofmann rearrangement.
118. (c) An antacid is a substance which neutralizes stomach acidity.
119. (a) Annealing is the process by which both metal and glass are treated with heat in order to change their properties.
120. (b) Denatured ethanol is chemically ethanol in which substances are added to make it unfit for drinking by way of making it bad-tasting, foul-smelling etc.
121. (d) For removal of phenol from the contaminated water the polymeric adsorption is involved. In this process, the molecules of the contaminant are retained on the surface of the adsorbent material and then can be separated from the water.
122. (d) The stability of a pond ecosystem like any ecosystem depends mainly on the producers and consumers.
123. (d) Sonic boom or supersonic boom is a common name for the loud noise that is created by the 'shock wave' produced by the supersonic planes.
124. (c) This is because the scattering in red light is less than that of yellow colour. The longest visible wavelength is red and the shortest is violet. The wavelength of red light is more than yellow light.
125. (a) **Transboundary pollution** is the **pollution** that originates in one country but is able to cause damage in another country's environment, by crossing borders through pathways like water or air. Acid rain is a classic example of a transboundary pollution because it can be blown anywhere by the wind. Sulphur dioxide and nitrous oxides are the two main chemicals that react with water to make acid rain. The chemicals are commonly released from power stations, factories and transport.
126. (a) The **Nicobar pigeon** is a pigeon found on small islands and in coastal regions from the Nicobar Islands, India, through the Malay Archipelago, to the Solomons and Palau. It is the only living member of the genus **Caloenas** and the closest living relative of the extinct dodo.

127. (a) A **limnic eruption**, also referred to as a **lake overturn**, is a rare type of natural disaster in which dissolved carbon dioxide (CO₂) suddenly erupts from deep lake waters, forming a gas cloud that can suffocate wildlife, livestock and humans.
128. (c) The inventor of blood group is Karl Landsteiner. He was born in Vienna, June 14, 1868. He was awarded Nobel Prize for Medicine and Physiology in 1930. This is because the classification of all types of blood into four namely; A, B, AB, and O in the year 1909.
129. (a) Egg yolk is a rich source of fat. In addition it also contains protein.
130. (b) Blood is a fluid connective tissue.
131. (b) **DPT** refers to a class of combination vaccines against three infectious diseases in humans: diphtheria, pertussis (whooping cough), and tetanus. The vaccine components include diphtheria and tetanus toxoids and kills whole cells of the organism that cause pertussis.
132. (a) Smallpox eradicated by a collaborative global vaccination programme led by the World Health Organization. This deadly disease was officially declared eradicated in 1979.
133. (c) There are three germ pores in pollen grains of dicots.
134. (b) Farad is the SI unit of capacitance.
135. (b) In physics a substance is known as more elastic if it offers greater resistance to deformation than other bodies. Steel requires larger deforming force than rubber, hence it is more elastic.
136. (d) Among the given alternatives only *microwaves* are types of electromagnetic radiations.
137. (b) The oxalic acid is an ideal chemical for cleaning purposes. Its **bleach**-like qualities make it perfect for sterilizing household items. It is also efficient in removing rust on various different surfaces. Stains on counters, bathtubs and kitchen sinks can be removed through careful application of this chemical.
138. (b) Ammonium sulfate (NH₄)₂SO₄, is an inorganic salt most commonly used as a fertilizer. It contains 21% nitrogen and 24% sulfur.
139. (d) **Rectified spirit**, also known as **neutral spirits**, **rectified alcohol**, or **ethyl alcohol of agricultural origin** is highly concentrated ethanol which has been purified by means of repeated distillation, a process that is called rectification. It is 95.5% alcohol and 4.5% water. It is treated with CaO to form lime of alcohol, which undergoes fractional distillation to give ethanol.
140. (c) progestin (synthetic form of progesterone) and estrogens are commonly used in oral contraceptives to prevent pregnancy.
141. (d) The **Intergovernmental Panel on Climate Change (IPCC)** is a scientific and intergovernmental body under the auspices of the United Nations, set up at the request of member governments, dedicated to the task of providing the world with an objective, scientific view of climate change and its political and economic impacts.
142. (c) According to Central Pollution Control Board, the permissible sound level in residential areas is 55 dB and 45 dB during daytime and night respectively.
143. (b) Endosulfan spray on cashew crops resulted in the pollution to the tune of tragedy in various regions in Kerala including Kasaragod.
144. (c) Hypothermia is a medical emergency that occurs when our body loses heat faster than it can produce heat, causing a dangerously low body temperature. Normal body temperature is around 98.6° F (37°C). Hypothermia occurs as our body temperature passes below 95° F (35° C).
145. (c) Semiconductors are insulators at low temperatures and reasonably good conductors at higher temperatures. As temperature increases, the semi-conductor material becomes a better and better conductor.
146. (c) Mass of proton is $1.672621777(74) \times 10^{-27}$ kg. An electron has a mass $(9.1093829140) \times 10^{-31}$ kg that is approximately 1/1836 that of the proton. The mass of neutron is slightly larger than that of a proton. The mass of the hydrogen nucleus is 1.7×10^{-27} kg. The heaviest of these particles is the neutron.
147. (a) A television channel is a physical or virtual channel over which a television station or television network is distributed. Channel numbers represent actual frequencies used to broadcast the television signal. For example, in North America, "Channel 2" refers to the broadcast or cable band of 54 to 60 MHz, with carrier frequencies of 55.25 MHz for NTSC analog video (VSB) and 59.75 MHz for analog audio (FM), or 55.31 MHz for digital ATSC (8VSB).
148. (b) Water never has an absolute density because its density varies with temperature. Water has its maximum density of 1g/cm³ at 4 degrees Celsius. When the temperature changes from either greater or less than 4 degrees, the density will become less than 1 g/cm³.
149. (c) Photosynthesis is the process by which light energy is converted into chemical energy by organisms. Carbon dioxide and water are the raw materials of this process. The light energy comes from the sun and its end products are oxygen and glucose.
150. (b) An emulsion is a mixture of two or more liquids that are normally immiscible (nonmixable or unblendable). Emulsions are part of a more general class of two-phase systems of matter called colloids. In an emulsion, one liquid (the dispersed phase) is dispersed in the other (the continuous).
151. (b) The active ingredient in Dettol that confers its antiseptic property is chloroxylenol (C₈H₉OCl), an aromatic chemical compound. Chloroxylenol comprises 4.8% of Dettol's total mixture, with the rest composed of pine oil, isopropanol, castor oil soap caramel and water.
152. (c) Researchers in Mangolia and China completed studies to unravel the genomic Peculiarities behind the physiological tricks that camels use to survive in the harshest of conditions. They described the genomes of wild and domesticated Bactrian camels.

153. (d) Fine particles known as PM_{10} and $PM_{2.5}$ can penetrate deep into the lungs, creating health problems. People with heart or lung diseases, older adults, and children are most likely to have problems because of contact with particle pollution. Short-term exposure to PM among pregnant women has been associated with preterm growth and growth retardation in neonates.
154. (d) PNG is a mixture consisting mainly methane CH_4 with a small percentage of other higher hydrocarbons. The ratio of carbon to hydrogen is least in methane and hence it burns almost completely making it the cleanest fuel. Domestic PNG customers, also known as Residential customers, use gas for cooking purpose and also for heating water through gas geysers.
155. (d) Green Park Stadium is a 60,000 capacity floodlit multi-purpose stadium located in Kanpur, India, and the home of the Uttar Pradesh cricket team.
156. (c) According to the Red list of 2012 Ganges River Dolphin is one of critically endangered species in India. Endangered species in India comprise large varieties of rare species of wild animals, aquatic animals and insects.
157. (c) Arson is the crime of intentionally and maliciously setting fire to buildings, wild land areas, vehicles or other property with the intent to cause damage. Distinct from spontaneous combustion and natural wildfires, it is considered to be a man-made disaster which is socially induced.
158. (b) The thyroid gland is one of the largest endocrine gland in the throat, and consists of two connected lobes. It is found at the front of the neck, below the Adam's apple. The thyroid gland secretes thyroid hormones, which influence the metabolic rate, protein synthesis, and have a wide range of other effects, including on development.
159. (b) The cerebrum is the seat of intelligence and provides us with the ability to read, write and speak, make calculations and compose music; remember the past and plan for the future; and create works.
160. (c) The average adult has a blood volume of roughly 5 liters, which is composed of plasma and several kinds of cells. By volume, the red blood cells constitute about 45% of whole blood, the plasma about 54.3%, and white cells about 0.7%.
161. (c) The normal range of, concentration of fasting blood sugar is 80 to 120 mg/ml; in the testing of true blood sugar, the normal range of concentration is 70 to 100 mg/ml. so normal glucose levels fall between 70 and 150 mg. Higher levels may indicate diseases such as diabetes mellitus.
162. (b) Entomology is the scientific study of insects. It is derived from the Greek word 'entomos' which means "that which is cut in pieces or engraved/segmented", hence "insect".
163. (b) (b) and (c) * Exobiology is the branch of science that deals with the possibility of life in space including other planets.
164. (c) The ionosphere is a region of Earth's upper atmosphere, from about 60 km (37 mi) to 1,000 km (620 mi) altitude and includes the thermosphere and parts of the mesosphere and exosphere, it is ionized by solar radiation, plays an important part in atmospheric electricity and forms the inner edge of the magnetosphere. It has practical importance because among other functions, it influences radio propagation to distant places on the Earth.
165. (a) Coral reefs are underwater structures made from calcium carbonate secreted by corals. Coral reefs are colonies of tiny animals found in marine waters that contain few nutrients.
166. (a) Phytochrome is a photoreceptor, a pigment that plants use to detect light. It is a protein with a bilin chromophore. It detects mainly red and far-red region of the visible spectrum and also regulates germination of seeds.
167. (c) Quenching is a process in which absorbed light energy is dissipated as heat and does not take part in photochemistry. The phenomenon involves quenching of chlorophyll-a fluorescence, which is induced under steady-state illumination.
168. (c) AIDS virus destroys the T-cells of the immune system. T cells or T lymphocytes belong to a group of white blood cells known as lymphocytes, and play a central role in cell-mediated immunity.
169. (a) Bragg Spectrometer is an instrument used to analyze crystal structure by using X-rays. In it, a beam of collimated X-rays strikes the crystal, and a detector measures the angles and intensities of the reflected beam.
170. (a) Alpha particles consist of two protons and two neutrons bound together into a particle identical to a helium nucleus, which is generally produced in the process of alpha decay.
171. (c) The human body requires more calcium than any other mineral. At least 99% of the calcium is found in the bones and teeth, giving them strength and rigidity.
172. (a) Heterocercal type of tail is found in Sharks. In this type of tail the vertebral column bends upwards and reaches up to the tip of the more prominent dorsal lobe due to which caudal fin becomes asymmetrical and thus called as heterocercal type.
173. (a) The sigmoid colon is the part of the large intestine. It forms a loop that averages about 40 cm in length.
174. (b) A good conductor of electricity while carrying current remains electrically neutral because the total number of electrons and protons always remains same in the conductor.

175. (c) Containment of toxic or hazardous constituents in industrial solid wastes is currently being accomplished using: (i) coating grains of waste material with an inert and non-reactive impervious material (microencapsulation), and (ii) coating blocks of waste material with an inert, non-reactive impervious material (microencapsulation).
176. (b) UV radiation can be an effective viricide and bactericide. Disinfection using UV radiation is commonly used in wastewater treatment and is finding an increased usage in drinking water treatment.
177. (b) When cells are exposed to sunlight, radiant energy can damage the DNA. For example, ultraviolet irradiation cause covalent bond formation between adjacent thymines on the same strand of DNA. Ultraviolet light is absorbed by a double bond in thymine and cytosine bases in DNA.
178. (a) In order to manufacture silicones, alkyl-substituted chlorosilanes are used as starting material. Since dimethylsilane contains –OH group at the end of the chain, polymerization and chain length increases. However, the hydrolysis of alkyl trichlorosilane gives very complex cross linked polymer.
179. (b) Examples of natural colloids can be found in our body itself : blood consists of colloidal sized red blood corpuscles (RBC) which carry the vital oxygen to all the body tissues.
180. (a) Nickel silver, also known as German silver, is a copper alloy with nickel and often zinc. The usual formulations is 60% copper, 20% nickel and 20% zinc. Nickel silver is named for its silvery appearance, but it contains no elemental silver unless plated.
181. (d) Atomic absorption spectroscopy is an analytical chemistry technique used for determining concentration of particular metal element and is widely used in pharmaceuticals. It was used for the determination of cobalt in Vitamin B12.
182. (c) Prof. Ananda Mohan Chakrabarty genetically engineered a new species of *Pseudomonas* bacteria ("the oil-eating bacteria") in 1971 while working for the Research & Development Center at General Electric Company in Schenectady, New York.
183. (a) Devarda's alloy is an alloy of aluminium (44% - 46%) copper (49% - 51%) and zinc (4% - 6%). Devarda's alloy is used as reducing agent in analytical chemistry for the determination of nitrates after their reduction to ammonia under alkaline conditions. It owes its name to the Italian chemist Arturo Devarda (1859-1944), who synthesised it at the end of the 19th century to develop a new method to analyze nitrate in Chile saltpeter.
184. (a) Grit chambers are long narrow tanks that are designed to slow down the flow so that solids such as sand, coffee grounds, and eggshells will settle out of the water. Grit causes excessive wear and tear on pumps and other plant equipment. Its removal is particularly important in cities with combined sewer systems, which carry a good deal of silt, sand, and gravel that wash off streets or land.
185. (a) Cysteine (abbreviated as Cys or C) is an α -amino acid with the chemical formula $\text{HO}_2\text{CCH}(\text{NH}_2)\text{CH}_2\text{SH}$. It is a semi-essential amino acid, which means that it can be biosynthesized in humans. The thiol side chain in cysteine often participates in enzymatic reactions, serving as a nucleophile.
186. (d) Neon is a chemical element with symbol Ne and atomic number 10. It is in group 18 (noble gases) of the periodic table. Neon is a colorless, odorless, inert monatomic gas under standard conditions, with about two-thirds the density of air.
187. (b) The aorta is the largest artery in the human body, originating from the left ventricle of the heart and extending down to the abdomen, where it bifurcates into two smaller arteries (the common iliac arteries). The aorta distributes oxygenated blood to all parts of the body through the systemic circulation.
188. (c) Parathyroid hormone (PTH), parathormone or parathyrin, is secreted by the chief cells of the parathyroid glands as a polypeptide containing 84 amino acids. It acts to increase the concentration of calcium (Ca^{2+}) in the blood, whereas calcitonin (a hormone produced by the parafollicular cells (C cells) of the thyroid gland) acts to decrease calcium concentration.
189. (c) Insects, and some other invertebrates, exchange oxygen and carbon dioxide between their tissues and the air by a system of air-filled tubes called tracheae.
190. (c) In a nuclear reaction, the total (relativistic) energy is conserved. The "missing" rest mass must therefore reappear as kinetic energy released in the reaction; its source is the nuclear binding energy.
191. (b) Annihilation is the process that occurs when a subatomic particle collides with its respective antiparticle to produce other particles, such as an electron colliding with a positron to produce two photons.
192. (a) In the photoelectric effect, electrons are emitted from solids, liquids or gases when they absorb energy from light. Electrons emitted in this manner may be called photoelectrons.
193. (c) A hodograph of a particle moving with constant velocity is a point, and the corresponding trajectory is a straight line.
194. (b) Aluminium oxide has a very high melting point (over $2,000^\circ\text{C}$), so it would be expensive to melt it. Instead, it is dissolved in molten cryolite, an aluminium compound with a lower melting point than aluminium oxide. The use of cryolite reduces some of the energy costs involved in extracting aluminium.

195. (c) Glucose ($C_6H_{12}O_6$, also known as D-glucose, dextrose, or grape sugar) is a simple monosaccharide found in plants. It is one of the three dietary monosaccharides, along with fructose and galactose, that are absorbed directly into the bloodstream during digestion.
196. (b) Any of the homologous segments, lying in a longitudinal series, that compose the body of certain animals, such as earthworms and lobsters. Also called somite.
197. (a) Leachate is the term for pollutants and other liquid wastes that is formed from liquids present in the waste and from external water. It percolates and contaminates ground water.
198. (d) Each lung is enclosed within a cavity known as the pleural cavity. The pleural cavity is the space between the visceral and parietal layers of lungs.
199. (d) Mother's milk is the ideal food for the newborn. Mother's milk is loaded with various nutrients like Vitamins, minerals, enzymes, growth factors, proteins, antibodies etc.
200. (d) Transcription is the process in which a particular segment of DNA is copied into RNA by the enzyme RNA polymerase. During transcription, a DNA sequence is read by an RNA polymerase, which produces a complementary, anti-parallel RNA strand called a primary transcript.
201. (b) Hydrochloric acid is secreted by the parietal cells present in the stomach. The acidic pH helps in digestion of food by providing optimal pH for pepsin and gastric lipases.
202. (a) Emulsification is the process of breaking down of fat into small globules. Bile salts help in emulsification inside the GI tract. Emulsification provides a larger surface for pancreatic lipase for digestion of fats into fatty acids and glycerol.
203. (c) Taxonomy is the branch of science that deals with the classification of organisms.
204. (c) The Newton's disc consists of red, orange, yellow, green, blue, indigo and violet colours that appear white when it spins at high speed. The appearance is due to the concept of persistence of vision, which states that the human visual perception cannot distinguish details of high-speed movements.
205. (a) Force = Mass x Acceleration = MLT^{-2}
206. (c) In 1900, the German physicist Max Planck introduced the idea that energy is quantized in order to derive a formula for the observed frequency dependence of the energy emitted by a black body, called Planck's law, that included a Boltzmann distribution.
207. (d) A fiber optic consists of glass threads, each of which is arranged in bundles called optical cables. It is used to transmit light signals over long distances due to repeated bouncing of light off the walls due to total internal reflection of light.
208. (c) Chitin is a hard, tough substance that occurs widely in nature, particularly in the shells (exoskeletons) of arthropods such as crabs, insects and spiders. The walls of hyphae are composed of slightly different chitin. Chemically chitin is a polysaccharide, derived from glucose.
209. (d) Rutherford scattering experiment concluded that alpha particles are deflected back by a positive charge concentrated in the centre of atom. Hence, the incident alpha particles very close to this positive mass (later called as nucleus) in the centre of the atom gets deflected, while if it passes through at a fair distance from this mass, then it would simply pass through.
210. (c) An atom in the excited state is not stable and hence when it returns back to the ground state, it releases the energy in the form of light that it had previously gained and thus emission spectra is observed.
211. (a) Excessive secretion of thyroxine can cause an excessively high metabolic rate, which results in hypermetabolic state. It can result into an increased heart rate and elevated blood pressure.
212. (a) The concept of Greenhouse gases (GHGs) was postulated by Joseph Fourier. It was earlier in the 20th century that the scientists started exploring the relationship behind glacial periods of ice age and atmospheric CO_2 .
213. (c) In December 1984, at least 30 tons of Methyl isocyanate gas was leaked from the Union Carbide pesticide factory in Bhopal. It is one of the major industrial disasters of the world killing over 15000 people and affected more than 600,000 workers and inhabitants over the years.
214. (c) Particulate matter (PM10) which is defined as the fraction of particles with an aerodynamic diameter smaller than $10\ \mu m$ is filtered out by the process of sneezing and coughing.
215. (b) Recently scientists in China sequenced the DNA of the wild bactrian camel, to study camel's salt tolerance. Camels consume eight times more salt than cattle or sheep and have twice the blood glucose levels of other ruminants.
216. (c) Succulent plants store water in their stems or leaves. They include the Cactaceae family, which has round stems and can store a lot of water. The leaves are often vestigial, as in the case of cacti, wherein the leaves are reduced to spines, or they do not have leaves at all. Water is stored in the bulbs of some plants, at or below ground level. They may be dormant during drought conditions and are, therefore, known as drought evaders.
217. (a) Thorium is an element which are used in radioactive chemicals and is non-renewable where as all other three options are power generating systems which are regenerated.

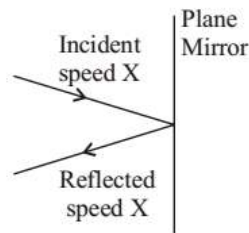
218. (a) Archegonium is the female reproductive organ in ferns and mosses. An archegonium also occurs in some gymnosperms, e.g. cycads and conifers. A flask-shaped structure, it consists of a neck, with one or more layers of cells, and a swollen base-the venter-which contains the egg.
219. (b) *Trochodendron* is a genus of flowering plants with one living species, *Trochodendron aralioides*, and six extinct species known from the fossil record.
220. (a) A Caesarean section (often C-section) is a surgical procedure in which one or more incisions are made through a mother's abdomen (laparotomy) and uterus (hysterotomy) to deliver one or more babies. The first modern Caesarean section was performed by German gynecologist Ferdinand Adolf Kehler in 1881. But in ancient medical history Julius Caesar was the first person to be borne by this method and thus the operation named after him.
221. (b) Study of ants is called Myrmecology.
222. (a) A Reverse transcriptase (RT) is an enzyme used to generate complementary DNA (cDNA) from an RNA template, a process termed reverse transcription. RT is needed for the replication of retroviruses (e.g., HIV), and RT inhibitors are widely used as antiretroviral drugs.
223. (c) Fleming's right-hand rule (for generators) shows the direction of induced current when a conductor moves in a magnetic field. The right hand is held with the thumb, first finger and second finger mutually perpendicular to each other (at right angles).
224. (b) The watt (symbol: W) is a derived unit of power in the International System of Units (SI), named after the Scottish engineer James Watt (1736-1819).
225. (d) The NIOSH states "Under dry conditions, the resistance offered by the human body may be as high as 100,000 Ohms. Wet or broken skin may drop the body's resistance to 1,000 Ohms," adding that "high-voltage electrical energy quickly breaks down human skin, reducing the human body's resistance to 500 Ohms."
226. (a) The critical temperature for superconductors is the temperature at which the electrical resistivity of a metal drops to zero. The transition is so sudden and complete that it appears to be a transition to a different phase of matter.
227. (a) Brass is an alloy made of copper and zinc; the proportions of zinc and copper can be varied to create a range of brasses with varying properties.
228. (d) Wrought iron is an iron alloy with a very low carbon content, in comparison to steel, and has fibrous inclusions, known as slag. This is what gives it a "grain" texture resembling wood, which is visible when it is etched or bent to the point of failure. Wrought iron is tough, malleable, ductile and easily welded.
229. (b) Galvanization, or galvanisation, is the process of applying a protective zinc coating to steel or iron, to prevent rusting. The most common method is hot-dip galvanization, in which parts are submerged in a bath of molten zinc.
230. (b) A homogeneous mixture is a type of mixture in which the composition is uniform and every part of the solution has the same properties. A homogeneous mixture in which there is both a solute and solvent present is known as solution.
231. (c) The plant epidermis consists of three main cell types: pavement cells, guard cells and their subsidiary cells that surround the stomata.
232. (a) As sugar concentration increases in the guard cells, as a result water enters the guard cells. The guard cells become turgid (swollen with water). The thin outer walls bulge out and force the inner wall into a crescent shape. In this way a stoma or pore is formed between each pair of guard cell.
233. (c) Mahyco, an Indian seed company based in Jalna, Maharashtra, has developed the Bt brinjal. The genetically modified brinjal event is termed Event EE 1 and Mahyco have also applied for approval of two brinjal hybrids.
234. (d) Electric current is measured using a device called as ammeter.
235. (d) Photoperiodism is the physiological reaction of organisms to the length of day or night. It occurs in plants and animals. It affects Flowering, Vegetative growth and fruiting in plants.
236. (d) The correct match is as follows:
Ascorbic acid- Vitamin C
Chlorophyll- Photosynthetic pigment
Carotenoid- Quencher
Superoxide dismutase- Enzyme
237. (b) Allantois is a membrane around developing embryo which is primarily involved in nutrition exchange and excretion.
238. (d) *Haliothis* belongs to Mollusca.
239. (a) Although most DNA is packaged in chromosomes within the nucleus, mitochondria also have a small amount of their own DNA. This genetic material is known as mitochondrial DNA or mtDNA
240. (c) First class proteins contain all the essential amino acids in sufficient amounts. Animal proteins obtained from milk, egg, fish, meat etc. are first class proteins. These are also called adequate proteins.
241. (b) Needle exerts more pressure than nail on the balloon.
242. (c) The speed of sound is greater in moist air than in dry air because moist air have larger density than dry air. Velocity of sound is directly proportional to the density of the medium in which it travels.
243. (b) X rays are frequently used to check the defects in Diamonds and other precious stones.

244. (a) When ice is kept on saw dust then it does not melt quickly as it's an insulator of heat and air does not circulate in good insulators. So, it prevents ice from melting quickly.
245. (a) When a drop of Glycerol is added to crushed KMnO_4 spread on a paper there is a violent explosion.
246. (c) A bleaching agent is a material that lightens or whitens a substrate through chemical reaction. The most common bleaching agents generally fall into two categories: chlorine and its related compounds (such as sodium hypochlorite) and the peroxygen bleaching agents, such as hydrogen peroxide and sodium perborate.
247. (a) Alpha particles are the least penetrating as they are the most densely ionizing. The penetrating power of nuclear radiation depends upon the ionizing power of the radiation. The more localised the ionization the less penetrating power it will possess.
248. (a) Hydrogen- peroxide is an effective sterilizing agent. Water results when it readily loses active oxygen.
249. (c) The maximum fixation of solar energy is done by green plants. The energy is stored in the plants as carbohydrates for their metabolic activities as growth, respiration etc.
250. (a) The term 'brown air' is used for photochemical smog. The brown color is caused by the presence of various Nitrous Oxides.
251. (c) Peroxyacetyl nitrate is a secondary pollutant present in photochemical smog. It is thermally unstable and decomposes into peroxyethanoyl radicals and nitrogen dioxide gas.
252. (b) Wave particle duality is a quantum mechanics effect. It means the electron sometimes acts like a particle and sometimes it acts like a wave. It depends on the situations.
253. (b) Vitamin B12 consists of a class of chemically related compounds (vitamers). It contains the biochemically rare element cobalt.
254. (c) In 1904 the German agronomist and plant physiologist Lorenz Hiltner first coined the term "rhizosphere" to describe the plant-root interface, a word originating in part from the Greek word "rhizo", meaning root. Hiltner described the rhizosphere as the area around a plant root that is inhabited by a unique population of microorganisms influenced, he postulated, by the chemicals released from plant roots.
255. (c) Reverse transcription was discovered by Howard Temin and independently isolated by David Baltimore.
256. (d) Steam will produce more severe burns than boiling water because steam has more heat energy than water due to its latent heat of vaporisation.
257. (c) Fructose is the sweetest of all natural sugar types.
258. (c) Zone melting, any of a group of techniques used to purify an element or a compound or control its composition by melting a short region (i.e. zone) and causing this liquid zone to travel slowly through a relatively long ingot, or charge, of the solid.
259. (b) 'Denitrification' is the biological conversion of nitrate to nitrogen gas, nitric oxide or nitrous oxide. These compounds are gaseous compounds and are not readily available for microbial growth; therefore they are typically released to the atmosphere.
260. (b) Holstein Friesians are a breed of cattle known today as the world's highest-production dairy animals. They are found in Europe and America.
261. (c) Coagulation removes dirt and other particles suspended in water. Alum and other chemicals are added to water to form tiny sticky particles called "floc" which attract the dirt particles. The combined weight of the dirt and the alum (floc) become heavy enough to sink to the bottom during sedimentation.
262. (c) Retroviral integrase (IN) is an enzyme produced by a retrovirus (such as HIV) that enables its genetic material to be integrated into the DNA of the infected cell.
263. (b) The relationship between two specific heat of gases i.e. on constant pressure and on constant volume is given by, $C_p - C_v = R$ (or RJ).
264. (c) Penicillin is a group of antibiotics derived originally from genus of fungus *Penicillium*.
265. (c) The colour of a star is a major Indicator of its surface temperature.
266. (b) The atomic number of an element refers to the number of protons present in the nucleus of that atom. Based on atomic number the elements are placed in the periodic table.
267. (d) DPT is a class of vaccines known as combination vaccines due to presence of components which provide immunity against three major infectious diseases in humans. These are diphtheria, pertussis (whooping cough), and tetanus.
268. (a) High grade (HG) and Ultra high grade (UHG) anthracite are the highest grades of anthracite coal.
269. (a) Diode is an important electrical component which function as rectifier by allowing the flow of current in only one direction. The most common type of diode uses a p-n junction. In circuit diagrams, a diode is represented by a triangle with a line across one vertex.
270. (b) Anemometer is an instrument for measuring the speed of the wind, or of any current of gas.
271. (b) The retina of the eye has two types of light-sensitive cells called rods and cones. Both are found in the retina which processes images. Rods work in low light conditions to help night vision, but cones work in daylight and are responsible for colour discrimination.
272. (a) The vegetable fibres are composed of or cellulose based fibres. These class of fibres are commercially important fibres like cotton, jute etc.
273. (a) When an object is thrown vertically upwards it started decelerating under the earth's gravity. Its speed decreases until it attains a maximum height, where the velocity becomes zero. Then it is accelerated uniformly downwards under gravity.

274. (b) Fermentation is an anaerobic metabolic process and it does not require oxygen in order to occur. During Fermentation of carbohydrates such as starch or sugar, ethyl alcohol (ethanol) or lactic acid is produced generally.
275. (d) It depends upon waveform produced by the musical sound.
276. (a) Electrostatic Precipitators are used for removal of pollutants or impurities from air. It functions by electrostatically charging particles in the air. The charged particles are attracted to and deposited on collection plates.
277. (b) Leaves being green in color reflect green color and therefore is least absorbed during the process of photosynthesis.
278. (c) Activated Coconut Charcoal acts as best adsorbent among the given choices as it has more surface area for better adsorption.
279. (d) Green plants account for the maximum fixation of solar energy.
280. (b) Parsec (symbol: pc) is a unit of length used to measure large distances of objects outside our Solar System.
281. (a) At standard room temperature mercury (Hg) and bromine (Br) are in liquid state.
282. (a) Phenol, also known as carbolic acid, is an aromatic organic compound with the molecular formula C_6H_5OH . It is a white crystalline solid that is volatile. The molecule consists of a phenyl group ($-C_6H_5$) bonded to a hydroxyl group (OH).
283. (b) Urine of a normal healthy person contains around 0.1% creatinine. It is a by-product of creatinine phosphate in body and released from the body through urine.
284. (b) It grows larger until puberty and then begins to shrink. The gland produces thymosins, which are hormones that stimulate the development of antibodies.
285. (b) The Blood group AB has both A and B antigens, but no antibodies. It is therefore known as Universal Acceptor.
286. (d) Vitamins A, D, E, and K are fat soluble and deposit in body tissues.
287. (d) During chain reaction, neutrons are released in a repeated process producing enormous energy for atomic power during controlled reaction and atomic explosion in uncontrolled one.
288. (c) Refraction refers to change in direction of light as a result of its travelling at different speeds due to change in medium.
289. (b) When water freezes the mobile molecules inside it are forced to assume fixed positions in the ice. This reduces the molecular disorder of the system and therefore decreases the entropy.
290. (c) Two vectors are said to be equal if both the magnitude and direction are same.
291. (a) Generally all the viruses contain a protein capsid and nucleic acid genome. The nucleic acid may either DNA or RNA, while capsid functions as envelope to the genome. Both genome and capsid together known as nucleocapsid.
292. (d) Lichens can be used as air pollution indicators, especially of the concentration of sulfur dioxide in the atmosphere. Lichens are plants that grow in exposed places such as rocks or tree bark. They need to be very good at absorbing water and nutrients to grow there.
293. (c) Irrigation salinity is the rise in saline groundwater and the build-up of salt in the soil surface in irrigated areas. It is caused by using large volumes of irrigation water that locally raise groundwater levels and mobilise salt. Irrigation salinity is made worse when water used to irrigate is from salty sources.
294. (b) Pepsin is one of the enzymes that helps in digestion of proteins. In the stomach, the enzyme breaks down protein into smaller pieces called peptides. These peptides are further digested by a variety of proteases and peptidases in the intestine.
295. (b) Fermentation is an important step of metabolism which is facilitated in the absence of oxygen. It is also involved in the preparation of wine, alcoholic beverages etc. with the help of microorganisms.
296. (c) Saffron, a spice derived from the dried stigmas of the saffron crocus a small plant about a foot tall. Each flower has three female parts (stigmas) two male parts (stamens), each stigmas is red or dark red in color towards the top and yellow towards the bottom of the stigma, where it is attached to the flower.
297. (d) Suspended colloidal particles in water are a major concern in pollution control. These particles can be removed by the process of coagulation. In this process the destabilization of colloidal particles takes place by addition of chemical reagents (coagulants).
298. (a) Graves' disease is caused due to hyperthyroidism, that is overproduction of thyroid hormones. Although a number of disorders may result in hyperthyroidism, this disease is generally caused by the disorder of the immune system.
299. (a) The thermal decomposition of zinc carbonate gives rise to zinc oxide and carbon dioxide. The carbon dioxide produced during the process turns lime water milky. The residue is Zinc oxide which changes its colour from yellow to white on cooling.
300. (b) Among the given coagulants, Aluminum Chloride is the strongest. Due to its high efficiency and effectiveness in clarification it is used as preferred coagulant for many industrial and wastewater treatment applications.
301. (c) Polarization is only exhibited by light waves and not by the sound waves.
302. (b) For removal of iron and manganese present in water as impurities, the method that is generally used is oxidation and/or filtration. In special cases adsorbing to ion exchange resins can be introduced as an additional step.

303. (c) Diastase is obtained from Red gram.
304. (a) Three fourth of the substance will decay in 8 months.
305. (c) Chiropterophily is the term used for pollination of flowers with help of bats.
306. (c) Graphite is one of the solid lubricants used for reducing the friction. These solid lubricants are used between two sliding surfaces.
307. (c) Nerve cell is the longest cell in the human body.
308. (c) The acid rain contains acidic components, such as sulfuric and nitric acid. Due to acidity present in the rain it is harmful not only to vegetation but other non-living structures as well.
309. (b) In activated sludge process, wastewater with organic matter is aerated in an aeration basin in which micro-organisms metabolize the suspended and soluble organic matter. This is an important stage of the treatment of the sewage water.
310. (a) Caustic soda or sodium hydroxide is an important chemical compound used in various industrial as well as domestic uses. It is a white deliquescent solid - that is tendency to absorb moisture from the air.
311. (b) Red light scatters much less than lights of other color due to its greater wavelength.
312. (a) The basic unit of nervous system is known as neuron. The nervous system consists of nerves, brain and spinal cord. They control the working of various organs of the body. The part of brain and spinal cord is called the Autonomic Nervous System.
313. (a) A cellulosic wall is found in the cells of plants. Cellulose is an important structural component of the primary cell wall of green plants, many forms of algae and the oomycetes. Some species of bacteria secrete it to form biofilms. Cellulose is the most abundant organic polymer on Earth.
314. (c) The filtration unit of kidney is known as nephron. Kidneys filter the nitrogenous waste products of the body through nephron and throw them out in the form of urine. Kidneys and skin are the chief organs of excretion.
315. (d) The nutritive tissue in the seeds of higher plants is known as endosperm. Endosperm is the tissue produced inside the seeds of most flowering plants around the time of fertilization. It surrounds the embryo and provides nutrition in the form of starch, though it can also contain oils and protein.
316. (b) Yeast is an important source of vitamin B. Yeasts are eukaryotic microorganisms classified in the kingdom Fungi, with 1,500 species (estimated to be 1% of all fungal species). Yeasts are unicellular, although some species with yeast forms may become multicellular through the formation of strings of connected budding cells known as pseudohyphae, or false hyphae, as seen in most molds.
317. (d) Enzymes are proteins. Enzymes are large biological molecules responsible for the thousands of metabolic processes that sustain life. They are highly selective catalysts, greatly accelerating both the rate and specificity of metabolic reactions, from the digestion of food to the synthesis of DNA. Most enzymes are proteins, although some catalytic RNA molecules have been identified.
318. (c) Heating of ore below its melting point in the absence of air is known as calcinations. Calcinations is a thermal treatment process in presence of air or oxygen applied to ores and other solid materials to bring about a thermal decomposition, phase transition, or removal of a volatile fraction
319. (b) The most electronegative element among the following is fluorine. Fluorine is a chemical element with symbol F and atomic number 9. It is the lightest halogen and exists as a highly toxic pale yellow diatomic gas at standard conditions. As the most electronegative element, it is extremely reactive: almost all other elements, including some noble gases, form compounds with fluorine.
320. (b) NH_4Cl is the compound which possesses ionic, covalent and coordinate bonds. Ammonium chloride, an inorganic compound with the formula NH_4Cl , is a white crystalline salt, highly soluble in water. Solutions of ammonium chloride are mildly acidic. Sal ammoniac is a name of the natural, mineralogical form of ammonium chloride
321. (a) The depletion of Ozone layer is mainly due to chlorofluorocarbons. A chlorofluorocarbon is an organic compound that contains only carbon, chlorine, and fluorine, produced as a volatile derivative of methane, ethane, and propane. They are also commonly known by the DuPont brand name Freons.
322. (c) Bacterium is associated with tuberculosis, Fungus with ringworm, Protozoan with kala-azar and virus with influenza.
323. (b) Matter waves are de Broglie waves. In quantum mechanics, the concept of matter waves or de Broglie waves reflects the wave-particle duality of matter. The theory was proposed by Louis de Broglie in 1924 in his PhD thesis. The de Broglie relations show that the wavelength is inversely proportional to the momentum of a particle and is also called de Broglie wavelength.
324. (a) When the milk is churned vigorously, the cream is separated out due to centrifugal force. Centrifugal force is the apparent force that draws a rotating body away from the center of rotation. It is caused by the inertia of the body as the body's path is continually redirected.
325. (b) Gas thermometers are more sensitive than liquid thermometers because the gases have large coefficient of expansion. Coefficient of Thermal expansion is the tendency of matter to change in volume in response to a change in temperature, through heat transfer. When a substance is heated, its particles begin moving more and thus usually maintain a greater average separation.

326. (b) Sun appearing red at sunset is not caused by atmospheric refraction of light. Refraction is essentially a surface phenomenon. During sunrise and sunset, the rays have to travel a larger part of the atmosphere because they are very close to the horizon. Therefore, light other than red is mostly scattered away. Most of the red light, which is the least scattered, enters our eyes. Hence, the sun and the sky appear red.
327. (d) Morphine is the most abundant opiate found in opium, the dried latex from unripe seedpods of *Papaver somniferum* (the opium poppy).
328. (a) Efforts by the U.S. Soil Conservation Service to promote contouring in the 1930s as an essential part of erosion control eventually leading to its widespread adoption. The practice has been proved to reduce fertilizer loss, power and time consumption, and wear of machines, as well as to increase crop yields and reduce erosion. Contour farming is most effective when used in conjunction with such practices as strip cropping, terracing, and water diversion.
329. (b) Glucose has the molecular formula $C_6H_{12}O_6$ and is thus a hexose sugar.
330. (d) Bacteria are prokaryotes, which, by definition, are cells that don't possess membrane-bound organelles. Mitochondria are membrane-bound organelles.
331. (d) The rainbow comes from the reflection and refraction of the sunlight in the falling drops; its colors are mainly due to dispersion, which means that the refractive index of water depends on the wavelength of light.
332. (c) When a ray of light falls on sea shell, then its small amount gets refracted (slightly polarised) and rest almost gets reflected back (fully polarised).
333. (d) An object covers distance which is directly proportional to the square of the time. Its acceleration is constant.
334. (b) If the horizontal range of a projectile is four times its maximum height, the angle of projection is 45 degrees. Range is the total horizontal distance covered during the time of flight. It is calculated as $\frac{u^2 \sin 2\theta}{g}$, where θ is the angle of projection.
335. (c) Mercury has the least melting point of the following metals (-38.83°C). Gold, silver and copper have 1064°C , 961.8°C and 1085°C respectively.
336. (d) Marsh Gas or methane gas is produced when vegetation decomposes in water. Methane, also called marsh gas is colourless, odourless gas that occurs abundantly in nature as the chief constituent of natural gas, as a component of fire damp in coal mines, and as a product of the anaerobic bacterial decomposition of vegetable matter under water.
337. (c) In cactus, spines are modified leaves.
338. (b) Mycoplasma are the smallest prokaryotic cells yet discovered, can survive without oxygen and are typically about $0.1\ \mu\text{m}$ in diameter.
339. (d) Biodiversity can be thought of as the genetic library that keeps life going on Earth. Biodiversity, short for biological diversity, is the term used to describe the variety of life found on Earth and all of the natural processes. This includes ecosystem, genetic and cultural diversity, and the connections between these and all species.
340. (b) Boiling point of water is lower at higher altitudes due to the decreased air pressure. Boiling point of water changes with altitude because atmospheric pressure changes with altitude.
341. (a) Sodium thiosulphate, also called sodium hyposulphite or "hypo" is used as a photographic fixer in photography.
342. (d) Soldering of two metals in presence of heat is possible due to the forces of adhesion and cohesion which resulted into a stronger joining between two metals.
343. (d) Stalactites and Stalagmites are formed due to the precipitation of Calcium carbonate (CaCO_3).
344. (d) Hermaphroditism is a form of sexual reproduction in which an organism can self-fertilize or mate with another individual of the same species.
345. (b) Lyman series of hydrogen atom spectral lines in the Ultraviolet.
346. (b) An electric battery is a device consisting of two or more electrochemical cells that convert stored chemical energy into electrical energy.
347. (a)



The speed of light remain unchanged after reflection.

348. (d) The area reserved for the welfare of wildlife is called National Park.
349. (a) When Ammonia gas is dissolved in water, ammonia acquires hydrogen ions from water to produce hydroxide and ammonium ions. Due to presence of hydroxide ions it is basic in nature.
350. (c) Mongoloid is a term used for all or some people indigenous to East Asia, Central Asia, Southeast Asia, North Asia, South Asia, the Arctic, the Americas, the Pacific Islands, and other lesser occurrences in other regions. Individuals within these populations often share certain associated phenotypic traits, such as epicanthic folds (skin folds covering the corners of the eyes), sinodonty and neoteny (retaining more juvenile physiological traits).
351. (a) Turner Syndrome, represented by 45, X. This occurs in females in which one of the X-chromosomes is missing.

352. (d) Myopia also known as short sightedness is a condition of the eye where one looking at a distant object seems a little out of focus.
353. (d) In the process of photosynthesis, phytoplankton release oxygen into the water. Half of the world's oxygen is produced from phytoplankton photosynthesis. The other half is produced via photosynthesis on land by trees, shrubs, grasses and other plants.
354. (a) Since a first-order reaction proceeds at a rate that depends linearly on concentration of only one reactant, the rate of reaction can be confirmed by increasing the concentration of a reactant.
355. (a) Mass is used to represent the amount of matter in an object.
356. (d) Rate of transpiration increases in hot, dry and windy condition. Dry, windy weather provides a favorable condition for evaporation to take place on the surface of leaves.
357. (d) Collateral Bundle is a type of vascular bundle in which the phloem and xylem lie on the same radius, with the phloem located towards the periphery of the stem and xylem towards the centre.
358. (b) The Planck constant has dimensions of physical action, these are the same as those of angular momentum. In SI units, the Planck constant is expressed in joule seconds (J.S)
359. (c) All living organisms are made up of biomolecules which has carbon as an important constituent.
360. (b) Polarization is a property of waves that can oscillate with more than one orientation. Electromagnetic waves such as light exhibit polarization, as do some other types of wave, such as gravitational waves.
361. (b) In the state of Tamil Nadu the problem of salinity exists not only in coastal areas but also in inland. In addition various natural factors also affect salinity. Nagapattinam is one of the districts unfit for cultivation due to this reason.
362. (c) Natural System of Classification of Plants was proposed by British Botanists George Bentham and Joseph Dalton Hooker. In this system of classification all natural characters of plants both vegetative and reproductive are taken into consideration as the basic of classification.
363. (c) Minamata disease is a neurological syndrome caused by severe mercury poisoning.
364. (d) Gold is often referred as king of metals.
365. (b) Amino acids are the building blocks of proteins and hence are the basic requirement for synthesis of proteins.
366. (a) Fermi is the unit of length used to measure nuclear distances. The unit is named after the Italian physicist Enrico Fermi.
367. (b) Blowing air through an open pipe will led to no change in pressure and hence the process will be isobaric.
368. (d) Christmas factor or factor IX is one of the proteases of the coagulation system.
369. (b) Highly concentrated sources of oxygen promote rapid combustion. Fire and explosion hazards exist when concentrated oxidants and fuels are brought into close proximity; however, an ignition event, such as heat or a spark, is needed to trigger combustion. Oxygen itself is not the fuel, but the oxidant.
370. (a) The Dumas method in analytical chemistry is a method for the quantitative determination of nitrogen in chemical substances based on a method first described by Jean-Baptiste Dumas in 1826.
371. (a) Deoxyribonucleic acid (DNA) is a molecule that encodes the genetic instructions used in the development and functioning of all known living organisms and many viruses. DNA is a nucleic acid; alongside proteins and carbohydrates, nucleic acids compose the three major macromolecules essential for all known forms of life.
372. (a) Steroids estrogen and progesterone (synthetic progesterone) are used in contraceptive pills. Steroid hormones help control metabolism, inflammation, immune functions, salt and water balance, development of sexual characteristics. and the ability to withstand illness and injury.
373. (a) Nematocyst is minute, elongated, or spherical capsule produced exclusively by members of the phylum Cnidaria (e.g., jellyfish, corals, sea anemones). Several such capsules occur on the body surface. Each is produced by a special cell called a cnidoblast and contains a coiled, hollow, usually barbed thread, which quickly turns outward (i.e., is everted) from the capsule upon proper stimulation. The purpose of the thread, which often contains poison, is to ward off enemies or to capture prey.
374. (a) Lactobacillus, also called Döderlein's bacillus, is a genus of Gram-positive facultative anaerobic or microaerophilic rod-shaped bacteria.
375. (c) Chlorophyll is a green pigment found in cyanobacteria and the chloroplasts of algae and plants. Its name is derived from the Greek words chloros ("green") and phyllon ("leaf"). Chlorophyll is an extremely important biomolecule, critical in photosynthesis, which allows plants to absorb energy from light. It contains magnesium.
376. (b) In physics, the kinetic energy of an object is the energy which it possesses due to its motion. It is defined as the work needed to accelerate a body of a given mass from rest to its stated velocity. Having gained this energy during its acceleration, the body maintains this kinetic energy unless its speed changes.
377. (c) The ozone layer is a layer in Earth's atmosphere that absorbs most of the Sun's UV radiation. It contains relatively high concentrations of ozone (O₃), although it is still very small with regard to ordinary oxygen, and

- is less than ten parts per million, the average ozone concentration in Earth's atmosphere being only about 0.6 parts per million. The ozone layer is mainly found in the lower portion of the stratosphere from approximately 20 to 30 kilometres (12 to 19 mi) above Earth, though the thickness varies seasonally and geographically.
378. (a) Airlift pumps are often used in deep dirty wells where sand would quickly abrade mechanical parts. (The compressor is on the surface and no mechanical parts are needed in the well). However airlift wells must be much deeper than the water table to allow for submergence. Air is generally pumped at least as deep under the water as the water is to be lifted. (If the water table is 50 ft below, the air should be pumped 100 feet deep).
379. (a) The passenger-side mirror on a car is typically a convex mirror. In some countries, these are labeled with the safety warning "Objects in mirror are closer than they appear", to warn the driver of the convex mirror's distorting effects on distance perception. Convex mirrors are preferred in vehicles because they give an upright, though diminished, image. Also they provide a wider field of view as they are curved outwards.
380. (b) Blue zone is the hottest part of gas flame.
381. (d) Gamma radiation, also known as gamma rays, refers to electromagnetic radiation of extremely high frequency and therefore high energy per photon. Gamma rays are ionizing radiation, and are thus biologically hazardous.
382. (a) Ozone layer shields earth from UV radiation - Ionosphere layer allows radio waves to be bounced off and radios to work.
383. (d) Bacillus Calmette-Guérin is a vaccine against tuberculosis that is prepared from a strain of the attenuated live bovine tuberculosis bacillus, *Mycobacterium bovis*, that has lost its virulence in humans. BCG is given to new-borns.
384. (b) Greenhouse gases (sometimes abbreviated GHG) in the atmosphere absorb and emit radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases in the Earth's atmosphere are water vapour, carbon dioxide, methane, nitrous oxide, and ozone.
385. (d) Hydrogen bomb is based on the principle of nuclear fusion. Hydrogen bomb or H-bomb, weapon deriving a large portion of its energy from the nuclear fusion of hydrogen isotopes. The hydrogen bomb functions by the fusion, or joining together, of lighter elements into heavier elements. The end product again weighs less than its components, the difference once more appearing as energy. Because extremely high temperatures are required in order to initiate fusion reactions, the hydrogen bomb is also known as a thermonuclear bomb.
386. (b) The commonly used safety fuse wire is made up of an alloy of tin and lead. Fuse is a safety device used in any electrical installation, which forms the weakest link between the supply and the load. It is a short length of wire made of lead / tin / alloy of lead and tin/ zinc having a low melting point and low ohmic losses. A fuse wire should always have a high resistance and low melting point. High resistance to heat up soon and low melting point to melt away due to the heat produced by high resistance so that the circuit is not damaged.
387. (b) When cooled from room temperature liquid water becomes increasingly dense like other substances, but at approximately 4 °C (39 °F), pure water reaches its maximum density. As it is cooled further, it expands to become less dense.
388. (b) The linear expansion of a solid rod is independent of the time of heat flow. It is directly dependent on the temperature, length of the rod and material of the rod.
389. (b) X-rays are produced as a result of obstruction of cathode rays with metal.
390. (c) Aristotle is the father of Biology and Zoology.
391. (a) The smallest unit of classification is species. The hierarchy of biological classification's major taxonomic ranks is as follows: species < genus < family < order < class < phylum < kingdom < domain.
392. (c) Aerenchyma refers to spaces or air channels in the leaves, stems and roots of some plants, which allows exchange of gases between the shoot and the root. Aerenchyma is widespread in aquatic and wetland plants which must grow in hypoxic soils.
393. (b) Night blindness is the first sign of vitamin A deficiency. Night blindness and its worsened condition, xerophthalmia, are markers of vitamin A deficiency, as it can also lead to impaired immune function, cancer, and birth defects.
394. (a) Cloves are the aromatic flower buds of a tree in the family Myrtaceae, *Syzygium aromaticum*. They are native to the Maluku Islands in Indonesia, and are commonly used as a spice.
395. (c) Heating gypsum partially dehydrates the mineral by driving off approximately 75% of water contained in its chemical structure. The partially dehydrated mineral is called calcium sulfate hemihydrate or calcined gypsum commonly known to be Plaster of Paris.
396. (c) Neutron was discovered by a British Physicist named Sir James Chadwick. In 1932, Chadwick showed that the radiation from the element beryllium, caused by the bombardment of alpha particles is actually a stream of electrically neutral particles. He called these particles neutrons. He also studied some other properties of these particles. Neutrons directly emitted from atomic nuclei are termed as fast neutrons.

397. (c) Carbonated beverages like soda get their name from the carbon dioxide dissolved in the beverage. Most gases will dissolve in water (which is the main component of soda) but carbon dioxide is particularly good at dissolving and it adds a slightly sour taste to the beverage. It may also be added to make it reminiscent of the carbonation found in fermented beverages like champagnes.
398. (c) Biogas is a clean unpolluted and cheap source of energy in rural areas. It consists of 55-70% methane which is inflammable. Biogas is produced from cattle dung in a biogas plant commonly known as gobar gas plant through a process called digestion.
399. (c) Carbon credit is a permit which allows a country or organization to produce a certain amount of carbon emissions and which can be traded if the full allowance is not used. It is associated with protection of environment.
400. (b) A green leaf is green because of the presence of a pigment known as chlorophyll, inside chloroplast.
401. (c) Temperature is measured by a thermometer. One of the most common devices for measuring temperature is the glass thermometer. This consists of a glass tube filled with mercury or some other liquid, which acts as the working fluid. Temperature increase causes the fluid to expand, so the temperature can be determined by measuring the volume of the fluid. Such thermometers are usually calibrated so that one can read the temperature simply by observing the level of the fluid in the thermometer.
402. (a) At 25° C the pH of pure water is very close to 7. Acids have a pH less than 7 while bases have a pH greater than 7. Because it has a pH of 7, water is considered to be neutral. It is neither an acid nor a base, but is the reference point for acids and bases.
403. (c) Distillation is a process of separating the component substances (impurities) from a liquid mixture by selective evaporation and condensation. The end result is pure water.
404. (b) H_2SO_4 is the sulphuric acid which is a highly corrosive strong mineral acid. It cannot be used in food industry as a preservative.
405. (d) The deep red colour that is present in tomatoes, pink grapefruit, guava and watermelon is caused by lycopene, a carotenoid.
406. (d) Anticoagulants are not present in wasp as it is not a blood sucking insect and hence do not need it.
407. (a) Vegetations like tree and other shrubs and plants are effective in absorbing various pollutant gases like nitrogen dioxide, ozone etc. These also absorb particulate matter through their leaves and needles and thereby help to improve air quality.
408. (b) When a person cries there is a watery discharge from the nose due to activation of lachrymal fluid through nasal cavity.
409. (c) The functions of root hairs is to absorb water and mineral nutrients present in the soil and take this solution up through the roots to the rest of the plant. Root hair cells do not carry out photosynthesis as they do not contain chloroplasts.
410. (d) In agriculture, a catch crop is a fast-growing crop that is grown simultaneously with, or between successive plantings of a main crop.
411. (d) Carotenoids protect the plant from damage from UV light and this protection is attributed to their antioxidant properties: they are able to absorb the harmful oxidative chemicals produced during photosynthesis, the process whereby plants make energy from sunlight.
412. (b) Ethanol is obtained from the agricultural feedstocks through the process of fermentation. It is a renewable source of energy and blended with petrol in different proportions.
413. (d) The substance that causes the worst air pollution is carbon monoxide (CO). Carbon monoxide combines with hemoglobin of blood to form carbaminohemoglobin which fails to carry oxygen to body tissues, causing oxygen starvation.
414. (a) Boiling occurs only when the vapor pressure of the liquid is equal to the surrounding atmospheric pressure.
415. (b) Covalent compounds have low melting and boiling points and not undergo very fast reactions.
416. (b) The properties of a mixture are same as that of their components.
417. (b) Several units of Vinyl Chloride polymerized to form Poly Vinyl Chloride (PVC).
418. (a) Polarized are used to eliminate the glares produced by different light sources. The polaroid glasses significantly attenuate the source of the glare that is the horizontally polarized light and helps in better visibility and contrast.
419. (a) Insulators are substances which do not permit the electricity to pass through it due to very high electrical resistance.
420. (a) Chromium, nickel are the major components of stainless steel along with iron.
421. (d) Uranium obtained from mining contains several isotopes of uranium in different compositions, such as U-234, U-235, and U-238. Through Enrichment of uranium the percentage of fissile uranium (U-235) is increased.
422. (c) A refrigerator works on with the help of five basic components: a fluid refrigerant; a compressor, a condenser coil, an evaporator coil and an expansion device. The compressor constricts the refrigerant vapour, raising its pressure, and pushes it into the coils on the outside of the refrigerator. When the hot gas in the coils meets the cooler air temperature of the surroundings, it turns into liquid. In the liquid form at

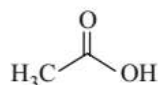
- high pressure, the refrigerant cools down as it flows into the coils inside the freezer and the fridge. The refrigerant absorbs the heat inside the fridge, cooling down the air. Lastly, the refrigerant evaporates and then flows back to the compressor, where the cycle repeats itself.
423. (b) Pyrolysis is a thermo-chemical decomposition of organic material at elevated temperatures in the absence of oxygen (or any halogen). Pyrolysis generally takes place well above atmospheric pressure at temperatures exceeding above 430 °C.
424. (c) Light is made up of photons, so it has some particle properties. In the photoelectric effect light hits some material which absorbs it and then ejects incident electrons. The reason that the photoelectric effect is evidence for the particle nature of light has to do with how materials absorb that light energy and then eject it in the form of electrons.
425. (d) The heaviest naturally-occurring element is uranium (atomic number 92, atomic weight 238.0289).
426. (b) Haptens are small molecules that react with a specific antibody but cannot induce the formation of antibodies unless bound to a carrier protein or other large antigenic molecule. They are incomplete or partial antigens.
427. (a) Sulphur dioxide gas exhibits bleaching properties in presence of moisture. It dissolves in water liberating nascent hydrogen. Nascent hydrogen removes oxygen atoms from the coloring matter (reduces coloring matter) and it loses its color.
428. (c) Zirconium is a lustrous, grey-white strong transition metal that resembles titanium. Zirconium is mainly used as a refractory and opacifier, although it is used in small amounts as an alloying agent for its strong resistance to corrosion.
429. (d) Plant wilting occurs after excessive loss of water by transpiration and lesser absorption. On a hot day, plants transpire heavily and cannot absorb water speedily to keep pace with transpiration loss, even when there is enough water.
430. (b) Gypsum is calcium sulphate which is essential to the sustainability of most irrigated soils. Irrigated land eventually leads to sodicity and salinity unless extreme care is taken. It improves sodic (saline) soils by removing sodium from the soil and replacing it with calcium.
431. (d) The Electromagnetic spectrum in order of decreasing wavelength: 0.01 nm : X-rays -1 nm ; Ultra-violet Rays- 0.1 micrometres ; Visible Light-Red light : 0.7 micrometres. Violet Light: 0.4 micrometres ; Infrared Radiation-0.01 mm ; Microwaves -less than 10 cm. usually 1 cm ; Radiowaves- Long, Medium and Short Waves : 2 km-10 m ; and Very High frequency (VHF) and Ultra High Frequency (UHF): 10 m-10 cm.
432. (a) Eutrophication is the eco-system response to the addition of artificial or natural substances, such as nitrates and phosphates through fertilizers or sewage to an aquatic system. One example is the "bloom" or great increase of phytoplankton in a water body as a response to increased levels of nutrients.
433. (d) The wings are modified forelimbs of birds which are the key to bird flight. Each wing composed of three limb bones, the humerus, ulna and radius.
434. (b) Entropy and enthalpy together make a new quantity, the Free Energy which, under conditions of constant temperature and pressure, determines the direction of spontaneous change. All spontaneous processes have a negative change in free energy.
435. (c) Sandstone can be turned into a metamorphic rock by being either heated up to a point where it undergoes a significant change or subjected to high pressures, or subjected to chemically active fluids, or some combination thereof. A common result of the metamorphosis of sandstone is the creation of quartzite.
436. (d) A Sonometer is a device for demonstrating the relationship between the frequency of the sound produced by a plucked string, and the tension, length and mass per unit length of the string. These relationships are usually called Mersenne's laws after Marin Mersenne (1588-1648), who investigated and codified them.
437. (b) Polio is a highly infectious disease caused by a virus. Its causative agent, poliovirus, was isolated in 1908 by Karl Landsteiner. The polio virus invades the nervous system, and can cause total paralysis.
438. (d) It is generally considered that the Panda belongs to the bear family, though differences persist. Some DNA studies have shown that the giant panda is closer to the bear family while the red panda is indeed closer to the raccoon family.
439. (a) The pancreas is a glandular organ in the upper abdomen, but it serves as two glands a digestive exocrine gland and a hormone-producing endocrine gland. Functioning as an exocrine gland, the pancreas produce enzymes to break down the proteins, lipids, carbohydrates, and nucleic acids in food. Functioning as an endocrine gland, the pancreas secretes the hormones insulin and glucagon to control blood sugar levels throughout the day.
440. (b) Due to the action of motor cells at the base of the closes. The motor cells are activated by touch of the sensitive hairs present on the surface of touch-me-not plant. Like a number of other plant species, it undergoes changes in leaf orientation termed "sleep" or nyctinastic movement. The foliage closes during darkness and reopens in light.
441. (c) The theoretical basis for plant tissue culture was proposed by botanist Gottlieb Haberlandt in 1902 on his experiments on the culture of single cell.

442. (d) Beak is technically only the external surface of a bird's mouth. The entire mouth structure of a bird is called the bill. The bill (or rostrum) consists of a bony framework, a vascular layer containing the blood vessels and nerves, a layer of connective tissue, which "glues" the beak to the bones, and the beak, which is the outer sheath covering the jaw bones. The beak is composed of keratin - the same tough, insoluble protein found in fingernails, hoofs, antlers and horns.
443. (c) External ear is present in Mammals. Many mammals can move the pinna (with the auriculares muscles) in order to focus their hearing in a certain direction in much the same way that they can turn their eyes. Most humans, unlike most other mammals, do not have this ability.
444. (c) Archimedes used the principle of buoyancy to find the purity of gold. According to which a body immersed in fluid experiences a buoyant force equal to the weight of the fluid it displaces. With the help of this principle, the density of the golden crown and solid gold was compared by balancing the crown on a scale with a reference piece, this set up is then immersed in water. If the crown is less dense than gold, it will displace more water, and thereby will experience a greater buoyant force than the reference piece.
445. (c) The kinetic energy of a non-rotating object of mass m traveling at a speed v is $\frac{1}{2}mv^2$. If m and v are increased to twice its magnitude, then $K.E = \frac{1}{2} \times 2m \times 2v \times 2v = \frac{1}{2}mv^2 (8) = 8$ times kinetic energy.
446. (d) The gravitational force is inversely proportional to the square of the distance: If you double the distance between the two bodies, the force of gravity is reduced to one-fourth its original value.
447. (d) Stationary wave can occur because the medium is moving in the opposite direction to the wave, or it can arise in a stationary medium as a result of interference between two waves travelling in opposite directions.
448. (b) Two oxygen atoms can both achieve stable structures by sharing two pairs of electrons joined in a double bond. $O=O$. Each line represents one pair of shared electrons.
449. (d) Helium is used by deep sea divers in their diving tanks as a substitute of nitrogen. The trouble with nitrogen in this situation is that nitrogen is a fairly heavy gas, and is soluble in blood at high pressure. Long term use of nitrogen can cause a strange sense of euphoria, or well being called nitrogen narcosis. This is a bit like being drunk, and makes the diver unable to assess dangers. Divers who work at depth or for long periods use a mixture of 20% Oxygen and 80% Helium. Helium is used for a number of reasons - It is light, cheap, and does not dissolve in blood. Being inert it cannot be toxic to the diver or corrosive to equipment.
450. (c) The atomic number of uranium is 92, and the mass number of the isotope is given as 238. Therefore, it has 92 protons, 92 electrons, and $238 - 92 = 146$ neutrons.
451. (d) Auxanometer measures root pressure which is developed in the xylem of the roots. The auxanometer measures plant growth as well as the pressure developed within the xylem cells of roots.
452. (c) Cell becomes turgid because of endosmosis. Plant cells need to be turgid (i.e. rigid) to support plant tissues. Plant cells become turgid when the concentration inside the cell is higher than outside. Therefore water moves into the cell by osmosis, and the vacuole swells and pushes against the cell wall. Endosmosis is the movement of water molecules from outside to inside of a cell through osmosis process.
453. (c) Imbibition is the absorption of one substance by another, through the uptake of water or similar liquids.
454. (b) A physical phenomenon known as osmosis causes water to flow from an area of low solute, high water concentration to an area of high solute, low water concentration, until the two areas have an equal ratio of solute to water. Normally, the solute diffuses toward equilibrium as well; however, all cells are surrounded by a lipid bilayer cell membrane which permits the flow of water in and out of the cell but restricts the flow of solute under many circumstances. As a result, when a cell is placed in a hypotonic solution, water rushes into the membrane, increasing the cell's volume.
455. (a) The efficiency of a reversible heat engine is always greater than the efficiency of an irreversible engine operating between same two thermal reservoirs.
456. (c) Chemotherapy is the use of medicines or drugs to treat cancer.
457. (d) Oxygen is the most abundant element, making up about 47% of the earth's mass.
458. (c) Since the wavelength of electron is much smaller as compared to the wavelength of visible light; the magnification of electron microscope is higher than optical microscope.
459. (a) The word 'amphi' means two, which is used for amphibians for their life activity on land and in water.
460. (c) Nitrate is the main form of nitrogen compounds that are present inside water.
461. (d) Edward Jenner is often called "the father of immunology".
462. (b) Due to presence of phosphate group inside DNA it shows the property of hydrophilicity.
463. (a) The cerebellum is a small part of the brain positioned at the back of the head, where it meets the spine, which acts as the body's movement and balance control centre.
464. (d) Potash Alum is used to reduce bleeding in minor cuts and abrasions, nose bleeds, and haemorrhoids.

465. (a) The phenomenon of total internal reflection takes place only when light transfers from denser to rarer medium.
466. (c) Interferon is produced by the body's cells as a defensive response to viruses.
467. (b) The first law of thermodynamics is a version of the law of conservation of energy.
468. (a) Red rot of sugarcane is a major disease which is caused by concealed fungal ascomycete *Colletotrichum falcatum*.
469. (a) A large numbers of identical plants known as clones are produced through the process of micropropagation.
470. (c) Benzene hexachloride (BHC) also known as Gammexene is an important pesticide.
471. (d) Apple is a false fruit in which the edible part is not the ovary but the fleshy thalamus.
472. (c) The discovery of the new Heat Shock Protein 90 (HSP90) has the potential for the effective treatment of malaria.
473. (c) Antigen-presenting cells (APCs) helps in initiation and orchestration of Antigen specific immune responses. These are mainly present in Lymph nodes, spleen and also in skin.
474. (b) Nucleic acid hybridization or DNA hybridization is used to determine the number of DNA sequences that any two organisms have in common and to estimate the percentage of divergence within DNA sequences that are related but not identical.
475. (d) Starch is stored in various tissues or specialised plant parts like tubers. Sugasr produced in the green parts like leaves are translocated through phloem and stored in these parts.
476. (c) Bacteriophages are viruses that infect and feed on bacterial host.
477. (b) The measure of dispersion shows the scatterings of the data. It tells the variation of the data from one another and gives a clear idea about the distribution of the data. Measure of dispersion, is used to describe the variability in a sample or population and generally used in conjunction with a measure of central tendency.
478. (c) The soil particles absorb the water from the surroundings through the process of capillary action.
479. (c) H_2SO_4 comprises about 60 per cent of the acid components of acid rains. It is produced by the combustion of coal and oil in power plants, smelters etc.
480. (c) LD_{50} is the amount of a drug or any test material which causes the death of 50% of a group of test animals under the standard test conditions.
481. (b) Tomato, wheat, grass are few examples of herbs.
482. (c) Lizards, snakes, crocodiles and tortoises belong to the reptile group.
483. (d) Tensiometers are devices that measure soil moisture tension (soil matric water potential)
484. (c) The SI unit of force is the newton (symbol N).
485. (c) Glass, asbestos, wood, cork, cotton wool and air are some examples of Bad conductor.
486. (c) Many oxidation-reduction reactions are as common and familiar as fire, the rusting and dissolution of metals, the browning of fruit, and respiration and photosynthesis-basic life functions.
487. (c) A Cation is an ion or group of ions possessing a positive charge and having the natural ability to move toward the negative electrode in electrolysis. Sulphate ion doesn't in this group.
488. (d) The main components of photochemical smog are nitrogen oxides, Volatile Organic Compounds (VOCs), tropospheric ozone, and PAN (peroxyacetyl nitrate). Chlorine oxide is not a component of Smog.
489. (c) An axillary bud is a sprout that develops in the axil of a plant, which is the angle formed by the upper side of the stem and an outgrowing leaf or branch.
490. (b) The basic function of xylem is to transport water from roots to shoots and leaves, but it also transports some nutrients.
491. (b) Whittaker proposed an elaborate five kingdom classification - Monera, Protista, Fungi, Plantae and Animalia.
492. (b) Newton's first law of motion: An object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force. This law is also called Galileo's law of falling bodies.
493. (a) A thermocouple is a device used extensively for measuring temperature. It is best suited for measuring the temperature inside metallurgical furnace.
494. (b) The acid produced by ant's bite is called formic acid.
495. (c) Solid sol is a type of colloid. Examples of Solid sol are Pumice stone, Foam rubber etc.
496. (a) Itai-Itai disease was caused by cadmium in the sea area of Japan.
497. (a) Cows are known as "ruminants" because the largest pouch of the stomach is called the rumen.
498. (a) Red blood cells (Hemoglobin) transports oxygen to all the parts of the body and ultimately to all the cells.
499. (a) The primary function of the kidney is to remove nitrogenous wastes (mainly urea) from the body.
500. (c) Light does travel around corners a little. This effect is called diffraction.
501. (d) It is due to the phenomena of 'total internal reflection.
502. (d) Weak bonds are those forces of attraction that, in biological situations, do not take a large amount of energy to break. For example, hydrogen bonds are broken by energies in the order of 4 - 5 kcal/mol.
503. (d) Above reaction is the example of neutralization reaction. It happens when an acid and a base react to form water and a salt and involves the combination of H^+ ions and OH^- ions to generate water.

504. (a) The Bishnois are considered as the first environmentalists of India. It was started in 1485AD by Saint Guru Jambheshwar in the Thar Desert of Rajasthan, India. It was started against cutting of trees.
505. (b) Cinnamon is obtained from barks of the plants.
506. (a) The body manufactures insulin in the pancreas, and the hormone is secreted by its beta cells, primarily in response to glucose.
507. (d) The impure blood from the body parts enters the heart from superior and inferior Vene cava.
508. (b) The light travels straight as long as it is in the water, but if it emerges obliquely from the water into the air it is bent downward toward the surface. This bending is known as refraction, and this is the main cause that water tank appear shallower when viewed from the top.
509. (b) In light, yellow is a secondary color, and is made by combining Red and Green.
510. (b) An endothermic reaction is any chemical reaction that absorbs heat from its environment.
511. (b) Besides Bauxite, Cryolite (Na_3AlF_6) is also the ore of Aluminium.
512. (a) Bhopal gas tragedy occurred on the night of 2–3 December 1984 at the Union Carbide India Limited (UCIL) pesticide plant. Over 500,000 people were exposed to methyl isocyanate (MIC) gas and other chemicals.
513. (b) Diazepam is a benzodiazepine drug. It is used to treat anxiety disorders, alcohol withdrawal symptoms and sometimes also to treat seizures in combination with other medications.
514. (a) *Ficus benghalensis* is the botanical name of Indian banyan. The tree is a native to the Indian subcontinent.
515. (b) *Equus burchellii* is one of the subspecies of the zebra. It is named after the British explorer and naturalist William John Burchell.
516. (c) Atomic number of copper is 27, while that of Zn is 30. The atomic number of Cr, Mn and Fe is 24, 25 and 26 respectively.
517. (d) Photovoltaics cells or solar cells are used to convert solar energy into electrical energy.
518. (d) During enteric fermentation as part of digestion of lingo cellulosic materials in ruminant animals, methane gas is produced.
519. (b) Power is defined as the rate at which work is done.
520. (d) Young's modulus is a measure of stiffness of solid materials. In other words, it is the resistance to elastic deformation under load. It is represented as, $Y = \text{Stress} / \text{Strain}$. Its SI unit is Pascal.
521. (c) Bile is stored in Gall bladder after being secreted from Liver.
522. (c) Others are connective Tissue but Cardic muscle is an involuntary, striated muscle that is found in the walls of the heart.
523. (c) Normally, human heart beats 72 times a minute.
524. (c) Muscle fatigue occurs due to accumulation of Lactic acid which is an organic compound formed when there is anaerobic energy production at high rates.
525. (a) The inexhaustible source of energy of stars is due to conversion of hydrogen to helium.
526. (d) Gamma Rays are penetrating electromagnetic rays which has the highest frequency.
527. (d) Clouds are made of tiny droplets of liquid or frozen water. Clouds act like blankets which prevent heat energy stored in the air and soil from leaving the Earth in the form of infrared radiation.
528. (c) The subatomic particle that does not have any electric charge is Neutron. It is neither positive nor negative.
529. (d) Argon is a gas used to fill incandescent light bulbs.
530. (b) Tear gas known as Lachrymator has chlorine gas one of its major component that cause severe eye, respiratory and skin irritation, pain, bleeding and even blindness.
531. (a) Brine is a solution of excess salt and water. The high salt content in brine prevents the growth of Bacteria and thus helps to preserve the food for a long time.
532. (b) Automobile Battery primarily causes lead pollution which is harmful for environment.
533. (a) Montreal protocol is an international treaty signed on 14 september 1987 to protect the ozone layer.
534. (b) Super sonic jets cause thinning of O_3 layer which protects earth from harmful sun radiation.
535. (a) Biogas is formed through Fermentation in which anaerobic digestion takes place inside a closed system.
536. (c) Quenching is a process of cooling a material at a rapid rate. In ferrous alloys, this will often produce a harder metal, while non-ferrous alloys will usually become softer than normal.
537. (c) Ethanol which is a viable bio-fuel can be obtained from Sugarcane.
538. (b) Distant objects can be seen with help of Telescope. It is an optical instrument that aids in the observation of remote objects by collecting electromagnetic radiation. (such as visible light).
539. (c) Orientation/Steric factor. According to the collision model, a chemical reaction can occur only when the reactant molecules, atoms, or ions collide with more than a certain amount of kinetic energy and in the proper orientation.
540. (d) Brown Ring test is used for the detection of ionic nitrates.
541. (d) Calcium is an important component of blood clotting cascade. If normal amounts of calcium, platelets and tissue factors are present, Prothrombin is converted to Thrombin. Thrombin helps in blood coagulation or thrombus formation.
542. (b) Analytical Engine was the world's first general purpose computer which was used to perform analytical operations.

543. (d) The cerebrum is the largest part of the human brain, making up about two – third of the brain's mass.
544. (a) Pancreas is a vital part of digestive system and a critical controller of Insulin.
545. (c) Ascorbic Acid is not related to vitamin B complex group. Vitamin B complex group contains 8 water soluble. Vitamins–Vitamin B1, B2, B3, B6, B12, folate, biotin and pantothenic acid.
546. (b) A virus is made up of a core of genetic material either DNA or RNA. Capsid is made up of protein.
547. (a) Sunflower is a Large plant and is not a shrub.
548. (c) Biopsy, is a medical procedure during which a small sample of tissue is removed from a part of the body.
549. (a) A Cryogenic rocket engine is a rocket engine that uses cryogenic fuel or oxidizer, its fuel are liquefied gases and stored at very low temperature
550. (b) During photosynthesis light energy is converted into chemical energy. The light energy is intercepted by chlorophyll, then some of the light energy is converted to chemical energy. During the process; a phosphate is added to a molecule to cause the formation of ATP.
551. (b) Cohesive force between molecules is the reason of surface tension of liquid. Cohesive force is the action or property of like molecules sticking together.
552. (b) Reduction is the process of gain of electrons.
553. (d) Solder is an alloy made up of Tin and lead. Solder is used to create a permanent bond between metal work pieces.
554. (b) Carbon dioxide is a gas which leads to Global warming. Global warming is the rise in the average temperature of the Earth's climate system.
555. (d) Ascorbic Acid is a natural water-soluble vitamin. Vitamin C is also known as ascorbic acid. It is used to prevent or treat low levels of vitamin C in people who do not get enough of the vitamin from their diets. Ascorbic acid is a potent reducing and antioxidant agent that functions in fighting bacterial infections, in detoxifying reactions, and in the formation of collagen in fibrous tissue, teeth, bones, connective tissue, skin, and capillaries.
556. (a) The explosion of crackers is an example of Combustion. Combustion is a chemical process where any fuel has a reaction with air (oxidant) to produce heat energy. Combustion usually occurs when a hydrocarbon reacts with oxygen to produce carbon dioxide and water.
557. (d) The appendix is a finger-like, blind-ended tube connected to the cecum, from which it develops in the embryo. The appendix looks like a narrow tube that joins to the end of the colon. It's thought to have come from our herbivorous ancestors where it played a role in digesting tough plant-based food. Appendix is a vestigial organ.
558. (d) Ethanoic acid commonly called as acetic acid is the second members of the aliphatic monocarboxylic acids. It is mainly found in all kinds of citrus fruits. The structure of ethanoic acid is shown below.



- Its dilute solution in water (5-8%) is known as vinegar, which is used for preserving food-sausage, pickles etc.
559. (a) In the human adult, the bone marrow produces all of the red blood cells, 60-70 % of the white cells (i.e., the granulocytes), and all of the platelets. The lymphatic tissues, particularly the thymus, the spleen, and the lymph nodes, produce the lymphocytes (comprising 20-30 % of the white cells).
560. (d) The cerebellum (back of brain) is located at the back of the head. Its function is to coordinate voluntary muscle movements and to maintain posture, balance, and equilibrium.
561. (d) Wind turbines convert the kinetic energy into mechanical power. This mechanical power can be used for specific tasks or a generator can convert this mechanical power into electricity to power homes, businesses, schools etc.
562. (b) By 1956, Mexico became self-sufficient in wheat production due to cultivation of semi-dwarf wheat. This led to the variety's introduction in the mid-1960s in India and Pakistan, where production doubled as a result. Later, similar strains for rice and other cereals were developed in Asia.
563. (b) **Calorific Values of Different Fuels**

Fuel	Calorific Value (kJ/kg)
Cow dung cake	6000-8000
Wood	17000-22000
Coal	25000-33000
Petrol	45000
Kerosene	45000
Diesel	45000
Methane	50000
CNG	50000
LPG	55000
Biogas	35000-40000
Hydrogen	150000

564. (b) The human body uses carbohydrates in the form of glucose. Glucose can be converted to glycogen, a polysaccharide similar to starch, which is stored in the liver and the muscles and is a readily available source of energy for the body.
565. (b) SATAT, the initiative is aimed at providing a Sustainable Alternative Towards Affordable Transportation as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs. This initiative holds great promise for efficient municipal solid waste management and in tackling the problem of polluted urban air due to farm stubble-burning and carbon emissions. Use of compressed bio gas will also help bring down dependency on crude oil imports and in realising the Prime Minister's vision of enhancing farmers' income, rural employment and entrepreneurship.

566. (d) A septum is a wall, dividing a cavity or structure into smaller ones. The role of the septum is to separate the right and the left side of the heart, thus preventing deoxygenated and oxygenated blood from mixing.
567. (b) Lysosomes are the cellular organelles that contain digestive enzymes that break down waste materials, foreign materials and foreign particles that entered cell. It helps the cell to process its nutrients and is responsible for destroying the cell after it has died. Lysosomes are also called suicidal bags of the cell because they burst to eat up the dead cell, leaving space for new cells to come.
568. (c) A person who can accept a blood transfusion from any blood type is called a universal recipient. Universal recipients have type AB blood and can receive a blood transfusion from a person with any blood type.
569. (a) Enzymes are protein molecules in cells which work as biological catalysts. Enzymes speed up chemical reactions in the body, but do not get used up in the process, therefore can be used over and over again.
570. (c) Nichrome is a non-magnetic alloy of nickel and chromium. It has very low resistivity and a very high boiling point (~1400 °C) which makes nichrome a very good conductor of electricity and ideal material for making wires and standard resistance coil.
571. (a) Diabetes is a metabolic disease that causes high blood sugar. The hormone insulin moves sugar from the blood into your cells to be stored or used for energy. With diabetes, your body either doesn't make enough insulin or can't effectively use the insulin it does make.
572. (b) Fertilization happens when a sperm cell successfully meets an egg cell in the fallopian tube. Once fertilization takes place, this newly fertilized cell is called a zygote. From here, the zygote will move down the fallopian tube and into the uterus.
573. (d) The nervous system transmits signals between the brain and the rest of the body, including internal organs. In this way, the nervous system's activity controls the ability to move, breathe, see, think, and more.
574. (c) The Tyndall effect is the scattering of light as a light beam passes through a colloid. The individual suspension particles scatter and reflect light, making the beam visible.
575. (a) The nephron is the microscopic structural and functional unit of the kidney. It is composed of a renal corpuscle and a renal tubule. The renal corpuscle consists of a tuft of capillaries called a glomerulus and an encompassing Bowman's capsule.
576. (a) The SI unit of audio frequency is the hertz (Hz). It is the property of sound that most determines pitch. The generally accepted standard range of audible frequencies for humans is 20 to 20,000 Hz. The range of frequencies individuals hear is greatly influenced by environmental factors.
577. (a) Shadows are made by blocking light. Light rays travel from a source in straight lines. If an opaque (solid) object gets in the way, it stops light rays from traveling through it.
578. (c) Producer gas is the product obtained when coal or coke is burnt with air deficiency and with a controlled amount of moisture. Producer gas is a gas mixture containing carbon monoxide hydrogen, carbon dioxide and nitrogen.
579. (c) A hygrometer is an instrument used to measure the amount of humidity and water vapour in the atmosphere, in soil, or in confined spaces. Humidity measurement instruments usually rely on measurements of some other quantity such as temperature, pressure, mass, a mechanical or electrical change in a substance as moisture is absorbed. By calibration and calculation, these measured quantities can lead to a measurement of humidity.
580. (c) Infrasound is sound below the level of human hearing. The frequency of a sound is measured in Hertz (Hz) and the infrasonic range is generally considered to be between 1 and 20 Hz.
581. (d) Electromagnetic waves are formed when an electric field comes in contact with a magnetic field. They are hence known as 'electromagnetic' waves. The EM waves travel with a constant velocity of 3.00×10^8 ms⁻¹ in vacuum. They are deflected neither by the electric field, nor by the magnetic field. An electromagnetic wave can travel through anything - be it air, a solid material or vacuum.
582. (b) Ecology is a branch of biology that studies the interactions among organisms and their biophysical environment, which includes both biotic and abiotic components. Topics of interest include the biodiversity, distribution, biomass, and populations of organisms, as well as cooperation and competition within and between species.
583. (b) Gills take oxygen out of the water and let water carry away carbon dioxide. Fish force water through their gills, where it flows past lots of tiny blood vessels. Oxygen seeps through the walls of those vessels into the blood, and carbon dioxide seeps out.
584. (c) Urochrome is a yellow pigment that comes from the processing of dead blood cells in the liver. The remaining bilirubin is extracted by the kidneys, where converted it gives urine that familiar yellow color. So Urochrome and the degradation products of bilirubin and urobilin, make urine yellow.
585. (c) **Femur** is also known as **thighbone**, upper bone of the leg or hind leg. The **femur** is the only bone in the thigh and the longest bone in the body. It acts as the site of origin and attachment of many **muscles** and ligaments, and can be divided into three parts; proximal, shaft and distal.
586. (b) "Mission Mangal", a new Indian Hindi-language film, tells the dramatic true story of the women behind India's first mission to Mars. The movie opens with lead actress VidyaBalan, who plays fictional character Tara Shinde, project director of the Mars Orbiter Mission. "Mission Mangal" was released in India on August 15, 2019, to celebrate the 50th anniversary of the Indian Space Research Organization.
587. (d) Dry ice is the solid form of carbon dioxide. It is used primarily as a cooling agent. It is also used to preserved dead bodies.
588. (b) Prime Minister Narendra Modi inaugurated the Kartarpur corridor, flagging off the first batch of over 500 Indian

- pilgrims, including former Prime Minister Manmohan Singh and Union Minister Harsimrat Kaur Badal. The corridor links Gurdwara Darbar Sahib in Pakistan, the final resting place of Sikhism founder Guru Nanak Dev, to Dera Baba Nanak shrine in this Punjab district. India had signed an agreement with the neighbouring nation on October 24, 2019 on the modalities for operationalisation of the corridor at 'Zero Point' of the international boundary at Dera Baba Nanak.
589. (d) Red worms do not have teeth. They have a structure called 'gizzard' which helps them in grinding their food. A red worm eats food equal to its weight every day. Red worms do not survive in too hot or too cold conditions.
590. (a) Cynology is the study of matters related to canines or domestic dogs. In English it may be a term sometimes used to denote serious zoological approach to the study of dogs as well as by writers on canine subjects, dog breeders and trainers and enthusiasts who informally study the dog.
591. (d) James Chadwick was awarded the Hughes Medal of the Royal Society in 1932, and subsequently the Nobel Prize for Physics in 1935. In 1932, Chadwick made a fundamental discovery in the domain of nuclear science: he proved the existence of *neutrons* – elementary particles devoid of any electrical charge. For this epoch-making discovery he was awarded the Nobel Prize for Physics in 1935.
592. (d) Silver fiber revolution is associated with Cotton. Cotton mainly found in Gujarat in India. Silver Revolution is associated with egg.
593. (b) Cilia, short eyelash like filament that are numerous on tissue cells of most animals and provides the means for locomotion of protozoans of the phylum Ciliophora. A cilium, like a flagellum, is composed of a central core (the axoneme), which contains two central microtubules that are surrounded by an outer ring of nine pairs of microtubules.
594. (d) Methane explosions occur in mines when a buildup of methane gas, a by-product of coal, comes into contact with a heat source, and there is not enough air to dilute the gas to levels below its explosion point, said Yi Luo, an associate professor of mining engineering at West Virginia University.
595. (c) Dr. Hiralal Chaudhuri was an Indian Bengali fisheries scientist. He was the father of induced breeding of the carp. The Blue revolution in India was developed on the basis of seed production technology through Hypophysation by him.
596. (b) Bryology is the branch of botany concerned with the scientific study of bryophytes (mosses, liverworts, and hornworts). Bryologists are people who have an active interest in observing, recording, classifying or researching bryophytes.
597. (d) Space agencies of India and France signed an agreement for cooperation for the former's first human space mission, Gaganyaan, a move that will enable Indian flight physicians to train at French facilities.
598. (c) Thallophyta consists of plants that do not have a well-differentiated body design. Thallophyta is a division of the plant kingdom including primitive forms of plant life showing a simple plant body including unicellular to large algae, fungi, lichens.
599. (d) Tin is a chemical element with the symbol Sn and atomic number 50. Tin is a silvery-colored metal that characteristically has a faint yellow hue. Tin is soft enough to be cut with little force and a bar of tin can be bent by hand with little effort.
600. (c) The approximate speed of sound in distilled water at 25°C (77°F) is 1498 m/s.
601. (d) The umbilical cord is a flexible, tube-like structure that, during pregnancy, connects the fetus to the mother. The umbilical cord contains three blood vessels: two arteries and one vein. The two arteries transport waste from the baby to the placenta and the vein carries oxygen and nutrients from the placenta.
602. (c) For a wave, wavelength divided by the time period is equal to wave velocity. Wavelength is the distance between any two nearest particles of the medium, vibrating in the same phase. Wavelength is the distance between any two nearest particles of the medium, vibrating in the same phase.
603. (b) Autotrophic organisms are that prepare their own food. Carbon and energy requirements of autotrophic organisms are fulfilled by photosynthesis. It is a process in which autotrophic organisms utilize carbon dioxide and water in the presence of sunlight and chlorophyll to form carbohydrates, the energy source. Green plants, algae and a few photosynthetic bacteria are examples of autotrophs.
604. (b) Viscose fibre is obtained from cellulose. Viscose is made from natural cellulose like tree wood pulp, beech, pine, and eucalyptus. It is also obtained from bamboo. After the processing of viscose, it becomes semi-synthetic by the use of chemicals like sodium hydroxide and carbon disulfide.
605. (b) Lymph is a light clear fluid made up of white blood cells that attack harmful bacteria in the blood. The light yellow fluid found in the intercellular spaces between different tissues and cells is called lymph.
606. (b) Photosynthesis is the process by which the green plants make their own food in the form of glucose and other energy rich compounds. It involves the conversion of carbon dioxide, water and minerals into sugar and oxygen using sunlight. During the light reaction photosynthesis, oxygen is released.
607. (b) The relief features, parent material, climate, vegetation, and other life-forms, as well as time apart from human activities, are the major factors responsible for the formation of soil.
608. (a) The most common cause of rickets is a lack of vitamin D or calcium in a child's diet. Night blindness is caused by Vitamin A deficiency and the animal liver is the store house for Vitamin A.
609. (a) Varicose veins are enlarged, swollen, and twisting veins, often appearing blue or dark purple. They happen when faulty valves in the veins allow blood to flow in the wrong direction or to pool. More than 23 percent of all adults are thought to be affected by varicose veins.
610. (d) Dragon is the privately developed spacecraft built by the American corporation SpaceX for NASA and the first private spacecraft to carry astronauts to orbit.

- Dragon is the spacecraft developed by SpaceX for NASA's manned mission to International Space Station.
611. (d) Artemis 2, a test flight that will send astronauts aboard Orion around the moon and back, will launch around May 2024, compared to the previous goal of September 2023; and Artemis 3, the first crewed lunar landing mission of this program, will launch "no earlier than 2025.
612. (b) The Lyrids are active each year from about April 16 to 25. No matter where you are on Earth, the best time to watch is typically between midnight and dawn.
613. (b) Kala-Azar is a slow progressing indigenous disease caused by a protozoan parasite of the genus *Leishmania*. In India *Leishmania donovani* is the only parasite that causes this disease.
614. (d) Explanation: The speed of light in vacuum, commonly denoted c , is a universal physical constant that is important in many areas of physics. Its exact value is defined as 299792.458 kilometre per second.
615. (d) Explanation: Amphibians have three-chambered heart, while reptiles have incomplete four-chambered heart (except crocodiles). Crocodiles, birds and mammals have complete, four-chambered hearts.
616. (c) Explanation: Ferromagnetism is a kind of magnetism that is associated with iron, cobalt, nickel, and some alloys or compounds containing one or more of these elements. It also occurs in gadolinium and a few other rare-earth elements.
617. (c) Explanation: Nitrate esters are organic nitric acid compounds that can contain enormous explosive force.
618. (d) Explanation: Joule is the basic energy unit of the metric system, or in a later more comprehensive formulation, the International System of Units (SI). Energy is defined via work, so the SI unit of energy is the same as the unit of work - the joule, named in honour of James Prescott Joule.
619. (a) Explanation: The tesla (symbol: T) is a derived unit of the magnetic B-field strength (also, magnetic flux density) in the International System of Units. One tesla is equal to one weber per square metre. The unit was announced during the General Conference on Weights and Measures in 1960 and is named [1] in honour of Nikola Tesla, upon the proposal of the Slovenian electrical engineer France Avžin.
620. (d) Explanation: Vaisakhi, also pronounced Baisakhi, marks the first day of the month of Vaisakha and is usually celebrated annually on 13 or 14 April as the solar new year. It is additionally a spring harvest festival in the Punjab.
621. (a) Explanation: Pinus is a gymnosperm. Pinus is a tall tree, looks conical in appearance and forms dense evergreen forest in the North temperate and sub-alpine regions of the world. They mostly grow in high altitudes (ranging from 1,200 to 3,000 metres).
622. (a) Explanation: Epidemiology is the study and analysis of the distribution, patterns and determinants of health and disease conditions in defined populations. It is a cornerstone of public health, and shapes policy decisions and evidence-based practice by identifying risk factors for disease and targets for preventive healthcare.
623. (d) Atoms are made up of a massive, central nucleus surrounded by a swarm of fast-moving electrons. An atomic nucleus is so smaller than an atom. The difference in size by realising that if a cricket ball represents a nucleus, then the radius of atom would be about 5 km.
624. (b) Each Celsius degree equals 5/9ths of a Fahrenheit degree. Each Fahrenheit degree equals 9/5ths of a Celsius degree. So, $30 \times 9/5 = 54$ degree Fahrenheit. Celsius scale, or centigrade scale, is a temperature scale that is based on the freezing point of water at 0°C and the boiling point of water at 100°C. Fahrenheit scale is a temperature scale that is based on the freezing point of water at 32°F and the boiling point of water at 212°F.
625. (b) Femto (symbol f) is a unit prefix in the metric system denoting a factor of 10^{-15} . The femtometre (American spelling femtometer) symbol derived from the Danish and Norwegian word femten 'fifteen', lit. 'unit of measurement' is an SI unit of length equal to 10^{-15} metres, which means a quadrillionth of one metre. This distance used to be called a fermi and was so named in honour of Italian-American physicist Enrico Fermi, as it is a typical length-scale of nuclear physics.
626. (b) Watt (symbol: W) is a unit of power or radiant flux. Torr is a non-SI unit of pressure defined as 1/760 of an atmosphere. It was named after Evangelista Torricelli, an Italian physicist and mathematician who discovered the principle of the barometer in 1644. Newton (symbol: N) is the International System of Units (SI) derived unit of force. The joule (symbol J) is the SI unit of energy—a measure of the capacity to do work or generate heat.
627. (d) The oil drop experiment was performed by Robert A. Millikan and Harvey Fletcher in 1909 to measure the elementary electric charge (the charge of the electron). The experiment took place in the Ryerson Physical Laboratory at the University of Chicago.] Millikan received the Nobel Prize in Physics in 1923. They suspended tiny charged droplets of oil between two metal electrodes by balancing downward gravitational force with upward drag and electric forces.
628. (d) Virus, the infectious agent of small size and simple composition that can multiply only in living cells of animals, plants, or bacteria. Polio or poliomyelitis is a disabling and life-threatening disease caused by the poliovirus. The Poliovirus is very contagious and spreads through person-to-person contact and can infect a person's spinal cord, causing paralysis (can't move parts of the body).
629. (c) Einsteinium is a synthetic element with the symbol Es and atomic number 99. Discovered in 1952 by Albert Ghiorso and colleagues. It belongs to Actinides Group with Melting point 860°C, 1580°F, 1133 K. It is present in 7th Period of Periodic table.
630. (c) Conjunctivitis means 'inflammation of the conjunctiva', and the commonest cause is infection by viruses or bacteria. Conjunctivitis can also be due to chemical irritants, traditional eye remedies or allergy. It is usual for both eyes to be affected in infectious cases.