



150+ SSC CHSL Previous Years Science Questions (English PDF)

150+ SSC CHSL Previous Years Asked Science questions

1. Red worms have a structure named _____ which helps them in grinding their food.

- A. Crop
- B. Gizzard
- C. Esophagus
- D. Intestine

2. Which of these words refers to the scientific study of domestic dogs?

- A. Chrematistics
- B. Cynology
- C. Craniology
- D. Carpology

3. Which of these bones is NOT a part of the human ear?

- A. Malleus
- B. Incus
- C. Femur
- D. Stapes

4. What is the more common name for solid carbon dioxide?

- A. Dry Ice
- B. Quick Silver
- C. Epsom
- D. Potash

5. Name the physicist who is credited with the discovery of the Neutron. This 1932 discovery led to his winning the Nobel Prize.

- A. Max Plank
- B. James Chadwick
- C. Enrico Fermi
- D. JS Fleming

6. Which law of physics states that the force between the two electric charges reduces to a quarter of its former value when the distance between them is doubled?

- A. Stefan's Law
- B. Pascal's Law
- C. Coulomb's Law
- D. Hooke's Law

7. When we cut an onion, the synthase converts the amino acid sulfoxides of the onion into which acid?

- A. Sulphuric acid
- B. Sulfenic acid
- C. Citric acid
- D. Nitric acid

8. Which of the following glands is present between the lungs?

- A. Pituitary
- B. Pineal
- C. Hypothalamus
- D. Thymus

9. Which of the following is NOT a vertebrate?

- A. Fish
- B. Mammal
- C. Bird
- D. Snail

10. Which of the following is the major component of vinegar?

- A. Lactic acid
- B. Citric acid
- C. Nitric acid
- D. Acetic acid

11. The _____ helps in equalizing the pressure on either sides of the eardrum.

- A. malleus
- B. incus
- C. cochlear nerve
- D. Eustachian tube

12. Which of the following is NOT a part of the brain?

- A. Pinna
- B. Pons
- C. Medulla
- D. Thalamus

13. Calcium sulphate dehydrate is commonly known as _____.

- A. glass
- B. limestone
- C. asbestos



D. gypsum

14. _____ expansion makes the Eiffel Tower taller during summers.

- A. Gradient
- B. Thermal
- C. Chemical
- D. Gravitational

15. In biological terms, _____ is a relationship between two organisms in which one organism benefits and the other is unaffected.

- A. Parasitism
- B. Commensalism
- C. Amensalism
- D. Mutualism

16. Xerophthalmia is caused due to the deficiency of vitamin _____.

- A. D
- B. K
- C. A
- D. C

17. Jellyfish are an example of which type of phylum?

- A. Phylum-Protozoa
- B. Phylum-Ctenophore
- C. Phylum-Porifera
- D. Phylum-Cnidaria

18. Georg Simon Ohm in whose honour we have the famous Ohm's Law, hailed from which country?

- A. Russia
- B. Spain
- C. Germany
- D. Poland

19. Which part of the body is responsible for the manufacture of red blood cells?

- A. Heart
- B. Lungs
- C. Bone marrow
- D. Brain

20. The development of a fruit without fertilization is called _____.

- A. Hybridogenesis
- B. Apomixis
- C. Gametogamy
- D. Parthenocarpy

21. Methane is a colourless, odourless, non-toxic but flammable gas. What is its common name?

- A. Blue vitriol
- B. Laughing gas
- C. Marsh gas
- D. Heating gas

22. What is the name of the phenomena (driven by the scattering of light) in which mountain tops acquire a rosy or orange hue around sunrise and sunset?

- A. Alpenglow
- B. Brillouin Scattering
- C. Barrel distortion
- D. Circle of confusion

23. What is the name of the phenomena in physics and astronomy which involves the splitting of a spectral into two or more components of slightly different frequency when the light source is placed in a magnetic field?

- A. Raman Effect
- B. Zeeman Effect
- C. Alpenglow Effect
- D. Lumen Effect

24. Which of these is the energy conversion that happens in the process called photosynthesis?

- A. Heat energy to light energy
- B. Potential energy to chemical energy
- C. Light energy to chemical energy
- D. Heat energy to chemical energy

25. What is the colour of the light emitted by the Sun?

- A. Red
- B. Yellow
- C. White



D. Orange

26. Name the law in Physics which states that equal volume of all gases under the same conditions of temperature and pressure contain equal numbers of molecules.

- A. Ohm's Law
- B. Boyle's Law
- C. Avogadro's Law
- D. Charles's Law

27. Chiropractic is a branch of science related to which part of the body?

- A. Kidney
- B. Liver
- C. Feet
- D. Lungs

28. Pernicious Anemia is caused by the deficiency of vitamin _____.

- A. B2
- B. B6
- C. B12
- D. B1

29. Which of the following can be used as a catalyst in Hydrogenation reaction?

- A. Tungsten
- B. Palladium
- C. Iron
- D. Barium

30. The total number of images formed by two mirrors inclined at 120° to each other is _____.

- A. 4
- B. 2
- C. 3
- D. 1

31. Which of the following is NOT an ore of iron?

- A. Siderite
- B. Cuprite
- C. Haematite
- D. Magnetite

32. _____ are homogeneous mixtures of two or more components.

- A. Amalgams
- B. Enzymes
- C. Solutions
- D. Emulsions

33. Which of the following is also known as Epsom salt?

- A. Calcium Sulphate
- B. Sodium Sulphate
- C. Ferrous Sulphate
- D. Magnesium Sulphate

34. Which of the following is used as a substitute of mercury in thermometers?

- A. Selenium
- B. Arsenic
- C. Galinstan
- D. Bromine

35. Which of the following is used to control pest fish?

- A. Herbicides
- B. Predicides
- C. Ovicides
- D. Piscicides

36. Which of the following acids is NOT present in grapes?

- A. Acetic acid
- B. Tartaric acid
- C. Malic acid
- D. Citric acid

37. Which of the following is the primary sex organ in females?

- A. Uterus
- B. Fallopian tube
- C. Ovary
- D. Vagina

38. Which of the following is a natural flame retardant?

- A. Flowers
- B. Skin
- C. DNA
- D. RNA



39. Name the only metal that is antibacterial.

- A. Iron
- B. Sodium
- C. Aluminum
- D. Copper

40. Who performs the task of capturing oxygen in the blood?

- A. White blood cells
- B. Red blood cells
- C. Chlorophyll
- D. Hemoglobin

41. Which of the following diseases is NOT transmitted from one person to another?

- A. Syphilis
- B. Hepatitis B
- C. AIDS
- D. Cirrhosis

42. Ozone at the higher level of the atmosphere is a product of _____ acting on oxygen molecules.

- A. gamma rays
- B. x-rays
- C. UV radiation
- D. IR radiation

43. Which among the following is the food tube?

- A. Thymus
- B. Larynx
- C. Oesophagus
- D. Aorta

44. The first electron shell which is the nearest to the nucleus never holds more than 'n' electrons, where 'n' is equal to:

- A. 4
- B. 8
- C. 2
- D. 6

45. How many types of isotopes does Scandium have?

- A. 13

- B. 10
- C. 7
- D. 9

46. Which of the following is used to remove the green colour from glass?

- A. Silicon dioxide
- B. Manganese dioxide
- C. Titanium dioxide
- D. Sulphur dioxide

47. Which of the following has the lowest melting point?

- A. Silver
- B. Tin
- C. Zinc
- D. Lead

48. What is the atomic mass of Zirconium?

- A. 88.22
- B. 89.22
- C. 90.22
- D. 91.22

49. Which among the following has its refractive index closest to that of crown glass?

- A. Diamond
- B. Ruby
- C. Sapphire
- D. Canada balsam

50. Which among the following is NOT an insulator?

- A. Dry Paper
- B. Ebonite
- C. Glass
- D. Mercury

51. Which among the following is a cation?

- A. Chloride
- B. Ammonium
- C. Iodide
- D. Fluoride

52. The power of a lens is -2.0 D. Here 'D' stands for _____.

- A. diopetre



- B. degree
- C. distance
- D. dilation

53. Which of the following can be diagnosed with the Widal test?

- A. AIDS
- B. Cancer
- C. Typhoid fever
- D. Tuberculosis

54. Which of the following is used for removing permanent hardness of water?

- A. Lime
- B. Baking soda
- C. Bleaching powder
- D. Washing soda

55. Which of the following is caused by a virus named 'Varicella zoster'?

- A. Polio
- B. Chickenpox
- C. Rabies
- D. Cholera

56. Which one of the following statements is INCORRECT?

- A. The measurable unit of pressure is denoted as Metre.
- B. Evaporation causes cooling.
- C. Matter is made up of small particles.
- D. Brass is a mixture of 30% zinc and 70% copper.

57. What is the velocity of sound in air?

- A. 343 m/sec
- B. 220 m/sec
- C. 232 m/sec
- D. 110 m/sec

58. Name the densest stable element known on earth.

- A. Tungsten
- B. Rhodium
- C. Osmium
- D. Aluminium
- E. None of the above/More than one of the above

59. How many carbon and hydrogen atoms are there in Propane, respectively?

- A. 2, 6
- B. 3, 8
- C. 2, 4
- D. 4, 7

60. What is the bond angle (in degrees) in the structure of a benzene molecule?

- A. 90
- B. 120
- C. 150
- D. 60

61. 'Torr' is a unit of

- A. Pressure
- B. Power
- C. Force
- D. Energy

62. _____ are called the 'Powerhouse' of the cell.

- A. Pituitary glands
- B. Lungs
- C. Mitochondria
- D. Arteries

63. Deficiency of which of the following vitamins causes Night Blindness?

- A. Vitamin A
- B. Vitamin B
- C. Vitamin D
- D. Vitamin C

64. In which of the following is citric acid present?

- A. Curd
- B. Black Gram
- C. Tamarind
- D. Lemon

65. Protium, deuterium and tritium are the naturally occurring isotopes of:

- A. Gold
- B. Hydrogen
- C. Nitrogen
- D. Carbon



66. What is the yellow dust present in the middle of a flower called?

- A. Pollen
- B. Zygote
- C. Sperm
- D. Stomata

67. The rating for a fuse used in a household electric circuit is provided on the basis of:

- A. voltage
- B. current
- C. power
- D. resistance

68. How many molecules of ATP are obtained by the respiration of one molecule of glucose?

- A. 36
- B. 38
- C. 4
- D. 2

69. Constantan is an alloy of copper and _____.

- A. Aluminium
- B. Iron
- C. Tin
- D. Nickel

70. Which among the following is a non-biodegradable waste?

- A. Flowers
- B. Dead animals
- C. Vegetables
- D. Plastic

71. 'Pedology' is the science of:

- A. skin disease
- B. ground water
- C. soil
- D. childhood illness

72. Snails belong to Phylum:

- A. Arthropoda
- B. Echinodermata
- C. Chordata

D. Mollusca

73. Which of the following is an inert gas most commonly found in light bulbs?

- A. Hydrogen
- B. Argon
- C. Oxygen
- D. Radon

74. Crocodiles have a _____ chambered heart.

- A. four
- B. three
- C. single
- D. two

75. Haemophobia is the fear of:

- A. blood
- B. heights
- C. water
- D. darkness

76. Law of gravitation applies to _____.

- A. Any pair of bodies
- B. The earth and the moon
- C. The planets around the Sun
- D. The earth and the objects on earth

77. When a light wave is reflected from a mirror, there is a change in its

- A. Frequency
- B. Amplitude
- C. Wavelength
- D. None of these

78. Elasticity of demand with respect to price is

A. elasticity $= \frac{\% \text{ change in demand}}{\% \text{ change in price}}$

B. elasticity $= \frac{\% \text{ change in price}}{\% \text{ change in demand}}$

C. elasticity $= \frac{\% \text{ change in demand}}{\% \text{ change in supply}}$



$$= \frac{\% \text{ change in supply}}{\% \text{ change in price}}$$

D. elasticity

79. The nutritive tissue in the seeds of higher plants is known as _____.

- A. hypocotyl
- B. embryo
- C. endosperm
- D. nucellus

80. Atmospheric pressure is measured by _____.

- A. Barometer
- B. Hexameter
- C. Nanometer
- D. Galxometer

81. The conversion of chemical energy into electrical energy is a case of _____.

- A. Battery
- B. Thermocouple
- C. Generator
- D. Potentiometer

82. What is meant by a 'pir' in the Sufi tradition?

- A. The Supreme God
- B. The Guru of the Sufis
- C. The greatest of all Sufi saints
- D. The orthodox teacher who contests the Sufi beliefs

83. Which of the following phenomenon helps to conclude that light is a transverse wave?

- A. Diffraction
- B. Polarization
- C. Refraction
- D. Interference

84. Matter waves are

- A. de Broglie waves
- B. Electromagnetic waves
- C. Transverse waves
- D. Longitudinal waves

85. The dimensional formula for universal gravitational constant is

- A. $M^{-1}L^3T^2$
- B. $M L^2T^{-2}$
- C. M^{-2}
- D. $M^{-1}L^3T^{-2}$

86. Longest cell in human body is _____.

- A. Blood cell
- B. Bone cells
- C. Nerve cell
- D. Muscle cell

87. Who proposed Continental drift theory?

- A. Alfred Wegener
- B. Alfred Worwick
- C. Alfred Hanks
- D. Alfred Mane

88. In Moseley's periodic table elements are arranged according to-

- A. Increasing atomic number
- B. Increasing atomic weight
- C. Increasing reactivity
- D. Types of element

89. The energy in reflected light _____.

- A. does not depend on the angle of incidence
- B. increases with the increase in angle
- C. decreases with the increase in angle of incidence
- D. becomes maximum for angle of incidence equal to 45°

90. What are the two kinds of Rotatory motion?

- A. Spin and Vibrational motion
- B. Spin and Orbital motion
- C. Spin and Translatory motion
- D. Spin and Projectile motion

91. Sponges belong to the phylum _____.

- A. Protozoa
- B. Annelida
- C. Porifera



D. Cnidaria

92. For every action, there is an equal and opposite reaction, is Newton's _____ ?

- A. First law
- B. Second law
- C. Third law
- D. Fourth law

93. Who invented the periodic table?

- A. Faraday
- B. Mendeleev
- C. Newton
- D. Bohr

94. The value of Avogadro Number is

- A. 6.023×10^{22}
- B. 6.023×10^{23}
- C. 6.023×10^{24}
- D. 6.023×10^{25}

95. Functional unit of 'Kidney' _____

- A. Axon
- B. Neuron
- C. Nephron
- D. Artery
- E.

None of the above/More than one of the above

96. Chlorophyll containing autotrophic thallophytes is called as _____.

- A. Algae
- B. Lichens
- C. Fungi
- D. Bryophytes

97. Which of the following statement(s) is/are CORRECT?

- I. Acids are sour in taste and generate H^+ ions.
 - II. Acids are sour in taste and generate OH^- ions.
 - III. Bases are bitter in taste and generate OH^- ions.
- A. Only I and III

- B. Only I and II
- C. Only II and III
- D. All I, II and III

98. Rate of work done is _____

- A. Energy
- B. Power
- C. Momentum
- D. Impulse

99. Which compound is used in Anti-malarial drug?

- A. Aspirin
- B. Neosporin
- C. Chloroquine
- D. Antacid

100. Pneumonia affects which of the following organs of human body?

- A. Kidneys
- B. Lungs
- C. Throat
- D. Liver

101.

Which of the following is true about gravity g -

- A. Gravity g decreases with height
- B. Gravity g is maximum at poles
- C. Gravity g is minimum at equator
- D. All of the above

102.

Which type of mirror is used in the head lights of vehicles?

- A. Plane mirror
- B. Concave mirror
- C. Convex mirror
- D. None of These

103.

Which of the following is caused by atmospheric refraction of light ?

- A. Mirage
- B. Twinkling of stars at night
- C. Sun appearing higher in the sky than it actually is
- D. All of these



104. Who invented the contact lens?

- A. Enrico Fermi
- B. Adolf Gaston Eugen Fick
- C. Sandford Fleming
- D. Benoit Fourneyron

105. Which of the following is an excretory organ of cockroach?

- A. Malpighian Tubules
- B. Nephridia
- C. Coxal Gland
- D. Green Gland

106. The SI unit of radioactivity is _____.

- A. Ampere
- B. Becquerel
- C. Decibel
- D. Cobolt

107. The outer white part of the eye that protects the inner structures is _____.

- A. Iris
- B. Sclera
- C. Retina
- D. Cornea

108. Atoms having the same number of protons but different numbers of neutrons are called:

- A. Cations
- B. Anions
- C. Isotopes
- D. Higgs-boson

109. Typhoid fever is caused by _____.

- A. Bacteria
- B. Virus
- C. Protozoa
- D. Fungi

110. Alcohol prepared by the distillation of wood is :

- A. Propyl alcohol
- B. Methyl alcohol
- C. Ethyl alcohol

D. Glycerol

111. Lactogenic hormone is secreted by _____.

- A. Mammary glands
- B. Placenta
- C. Ovary
- D. Pituitary

112. An alloy used in making heating elements for electric heating device is

- A. Solder
- B. Alloy Steel
- C. Nichrome
- D. German Silver

113. Who discovered the link between electricity and magnetism?

- A. Maxwell
- B. Diesel
- C. Hans Christian Oersted
- D. Volta

114. Which of the following Scientist proved that the path of each planet around the Sun is elliptical?

- A. Galileo
- B. Newton
- C. Copernicus
- D. Kepler

115.

The mass number of a nucleus is

- A. Always less than its atomic number
- B. Always more than its atomic number
- C. Always equal to its atomic number
- D. Sometimes more and sometimes equal to its atomic number

116. The acid-rain destroys the vegetation because it contains:

- A. Ozone
- B. Carbon monoxide
- C. Sulphuric acid
- D. Nitrates



117. One Kilowatt-hour is equal to _____.

- A. 36×10^5 Joules
- B. 3.6×10^5 Joules
- C. 36.8×10^6 joules
- D. 3.6×10^{-19} joules

118. When the heart is not beating in a regular pattern, this is referred to as _____.

- A. Procainamide
- B. Arrhythmia
- C. Agitation
- D. Bradycardia

119. The phenomenon which causes mirage is

- A. Total internal reflection
- B. Diffraction
- C. Polarisation
- D. Interference

120. Generally respiration in the fishes are done by _____.

- A. Nasal cavity
- B. Lungs
- C. Gills
- D. Skin

121. Which of the following scale is used for measuring intensity of earthquake?

- A. Richter scale
- B. Seismograph
- C. Mercalli scale
- D. Likert scale

122. The motion of a body that repeats itself after a regular interval of time is

- A. Periodic motion
- B. Simple harmonic motion
- C. Rotary motion
- D. Oscillatory motion

123. Which of the following is the best fuel in terms of energy released per gram of fuel?

- A. Hydrogen
- B. Methane
- C. Ethanol

D. Butane

124. What is the mode of nutrition of mushroom?

- A. Photosynthetic
- B. Chemosynthetic
- C. Parasitic
- D. Saprophytic

125. Which one of the following is the sweetest natural sugar?

- A. Lactose
- B. Glucose
- C. Sucrose
- D. Fructose

126. Where do plants synthesize protein from?

- A. Fatty Acids,
- B. Sugar
- C. Amino Acids
- D. Starch

127. Newton's first law is also known as _____.

- A. Law of friction
- B. Law of moments
- C. Law of Inertia
- D. Law of motion

128. Medulla oblongata is a part of which of the following?

- A. Heart
- B. Brain
- C. Lungs
- D. Stomach

129. Which compound of carbon is used to freeze meat?

- A. Benzene
- B. Solid CO_2
- C. Carbon Monoxide
- D. None of These

130. Which part of the brain is responsible for controlling sensory perceptions?

- A. Cerebrum
- B. Pons



- C. Thalamus
D. Cerebellum

131. Who Invented Induction Coil?

- A. Edwin Howard Armstrong
B. John Barber
C. Edwin Beard Budding
D. Nicholas Callan

132. Who Invented Gas Turbine?

- A. Edwin Howard Armstrong
B. John Barber
C. Edwin Beard Budding
D. Nicholas Callan

133. The term 'Green Revolution' was coined by

- A. William Gaud
B. Charles Elton
C. Eugene Odum
D. M.S. Swaminathan

134. Mark the compound which possesses ionic, covalent and co-ordinate bonds.

- A. NH_4Cl
B. SO_3
C. SO_2
D. H_2O

135. A body absorbs heat most if it is

- A. Black and smooth
B. Black and rough
C. White and rough
D. White and smooth

136. The acid present in Vinegar is _____.

- A. Citric Acid
B. Acetic Acid
C. Oxalic Acid
D. Malic Acid

137. Which of the following is the largest known cell?

- A. Eukaryotic Cell
B. Prokaryotic Cell
C. Mycoplasma
D. Ostrich Eggs

138. Aromatic hydrocarbons contain at least _____ benzene like ring in their molecules.

- A. Four
B. Three
C. Two
D. One

139. What is study of cell nucleus and chromosomes?

- A. Sarcology
B. Mycology
C. Karyology
D. Orthopedics

Direction: Read the sentence to find out whether there is an error in it. The error, if any, will be in one part of the sentence. The number corresponding to that part will be your answer. If the given sentence is correct as it is, mark the answer as 'No error'. Ignore the errors of punctuation, if any.

140. To run a company effectively (1)/ it is very important (2)/ in knowing the strengths and weaknesses (3)/ of the employees. (4)

- A. 1
B. 2
C. 3
D. 4
E. No error

141. The type of cell division in which chromosomes within the nucleus split into two identical parts?

- A. Binary Fission
B. Meiosis
C. Mitosis
D. None of these

142. Kidney stones are composed of _____.

- A. Calcium Oxalate
B. Sodium Chloride
C. Magnesium Nitrate
D. Calcium Bicarbonate



143. Sodium Carbonate is commonly known as

- A. Baking Soda
- B. Washing Soda
- C. Caustic Soda
- D. Caustic Potash

144. Which of the following enzymes aids in coagulation of milk?

- A. Tryptase
- B. Pepsin
- C. Rennin
- D. Amylase

145. Metal tea pots have wooden handles because _____.

- A. wood is a bad conductor of heat.
- B. it prevents electric shock.
- C. wooden handles looks good.
- D. it is hygienic.

146. Safety fuse wire used in domestic electrical appliances is made of metal of low

- A. Resistance
- B. Melting point
- C. Specific gravity
- D. Both A & B

147. Grave's disease is caused due to :

- A. Hyperactivity of thyroid
- B. Hyperactivity of thymus
- C. Hyperactivity of parathyroid
- D. none of these

148. The term cell was first coined by _____.

- A. Swanson
- B. Leeuwenhoek
- C. Robert Hooke
- D. Robert brown

149. Edible part of coconut is _____.

- A. Pericarp
- B. Endosperm
- C. Seed coat
- D. Complete seed

150. Green pigment found in the leaf of plant is _____.

- A. Hemoglobin
- B. Chlorophyll
- C. Lycopin
- D. None of these



###ANSWERS###

1. Ans. B.
- Red worms do not have teeth. They have a structure called 'gizzard' which helps them in grinding their food.
2. Ans. B.
- **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,.
 - **Craniology** is the scientific study of the shape and size of the **skulls of different human races.**
 - **Carpology** is the branch of botany concerned with the **study of fruits and seeds.**
3. Ans. C.
- The femur, or thigh bone, is the proximal bone of the hindlimb in tetrapod vertebrates and of **the human thigh.**
 - The femur is the longest, heaviest, and strongest bone in the human body. Malleus, Incus, and Stapes are part of the human ear.
4. Ans. A.
- **Dry Ice** is the common name for solid carbon dioxide (CO₂).
 - It gets this name because it does **not melt into a liquid when heated**; instead, it changes directly into a gas.
5. Ans. B.
- Chadwick won the Nobel Prize in Physics in 1935 for this discovery.
 - The year 1932 was later referred to as the "annus mirabilis" for nuclear physics in the Cavendish Laboratory, with discoveries of the neutron.
6. Ans. C.
- Coulomb's Law states that the force between the two electric charges reduces to a quarter of its former value when the distance between them is doubled.
 - Coulomb's law, or Coulomb's inverse-square law, is an experimental law of

physics that quantifies the amount of force between two stationary, electrically charged particles.

- According to Coulomb's law "like charges repel and opposite charges attract, with a force proportional to the product of the charges and inversely proportional to the square of the distance between them".

7. Ans. B.

The synthase enzyme converts the **amino acids sulfoxides** of the onion into **sulfenic acid**. When the tissue is disrupted by cutting, crushing or chewing, the cysteine sulfoxides are enzymatically degraded to sulfenic acids. The lacrimal glands become irritated and produce tears.

8. Ans. D.

- The **thymus gland** is present in the chest, in between the lungs.

- A gland is an organ in your body which makes and releases a substance such as hormones.

- The **thymus gland** is involved in the **development** of white blood cells called T lymphocytes.

- These white blood cells are part of your immune system and fight infection.

9. Ans. D.

- A **vertebrate** is an animal with a spinal cord surrounded by cartilage or bone. The word comes from vertebrae, the bones that make up the spine.

- Animals that are not **vertebrates** are called invertebrates. **Vertebrates** include birds, fish, amphibians, reptiles, and mammals.

- Vertebrates represent the overwhelming majority of the phylum Chordata, with currently about 69,963 species described.

10. Ans. D.

- Vinegar is an aqueous solution of acetic acid and trace chemicals that may include flavorings.

- Vinegar typically contains 5–8% acetic acid by volume.



- Usually the acetic acid is produced by the fermentation of ethanol or sugars by acetic acid bacteria.

11. Ans. D.

- The eustachian tube is a connection between the middle ear and the back of the nose and upper throat.
- It helps in equalizing the pressure on either side of the eardrum.

12. Ans. A.

The brain has three main parts: the cerebrum, cerebellum and brainstem.

- **The cerebrum** is the largest part of the brain.
- **The cerebellum** is located under the
- The brainstem acts as a relay center connecting the cerebrum and cerebellum to the spinal cord.
- The pinna is the only visible part of the ear (the auricle) with its special helical shape.
- Its function is to act as a kind of funnel which assists in directing the sound further into the ear.

13. Ans. D.

- It is a naturally occurring calcium salt.
- **Calcium sulphate dehydrate, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$** , is commonly called gypsum.
- It is a white or colourless powder.

14. Ans. B.

- Thermal expansion makes the Eiffel Tower taller during summers.
- The height of the **Eiffel Tower** is 324 meters on average and changes depending on the season.
- Because of thermal expansion, the height varies by 15 cm (5.9 in) due to temperature.

15. Ans. B.

Commensalism is a type of **relationship** where **one** of the **organisms benefits** greatly from the **symbiosis**. The **other** is **not** helped but is **not harmed** or damaged from the **relationship**. In **other** words, this is a **one-sided symbiotic relationship**.

16. Ans. C.

- Xerophthalmia is a medical condition in which the eye fails to produce tears.

- Xerophthalmia caused by a severe vitamin A deficiency is described by pathologic dryness of the conjunctiva and cornea.

- The conjunctiva becomes dry, thick and wrinkled.

- If untreated, it can lead to corneal ulceration and ultimately to blindness as a result of corneal damage.

17. Ans. D.

- **Jellyfish are an example Phylum-Cnidaria.**

- The cnidarians include the corals, hydras, jellyfish, sea anemones, sea pens, sea whips, and sea fans etc.

- They have tentacles with stinging cells in their tips which are used to capture and subdue prey.

18. Ans. C.

- **George Simon Ohm in whose honour we have the famous Ohm's Law, hailed from Germany.**

- Ohm's law states "The current through a conductor between two points is directly proportional to the voltage across the two points."

19. Ans. C.

- **Bone Marrow** is responsible for the manufacture of red blood cells.

- It contains stem cells.

- These cells develop into the:

A) Red blood cells which carry oxygen through your body.

B) White blood cells which fight infections.

C) Platelets which help with blood clotting.

20. Ans. D.

- The development of a fruit without fertilization is called **Parthenocarpy**.

- The production of fruit without fertilisation of ovules makes the fruit seedless.

- Banana, cucumber, grape, orange, grapefruit, pear, fig are some examples of Parthenocarpy.

21. Ans. C.



- **Methane is commonly called as Marsh Gas.**

- Methane is the simplest hydrocarbon consisting of one carbon atom and four hydrogen atoms.

- Its chemical formula is **CH₄**.

- The gas is produced in a condition that allows anaerobic digestion and fermentation of any plant/animal material.

22. Ans. A.

- Alpenglow is an optical phenomenon that appears as a horizontal reddish glow near the horizon opposite to the Sun when the solar disk is just below the horizon.

- This effect is easily visible when mountains are illuminated, but can also be seen when clouds are lit through backscatter.

23. Ans. B.

- The Zeeman effect, named after the Dutch physicist Pieter Zeeman, is the effect of splitting of a spectral line into several components in the presence of a static magnetic field.

- The effect is due to the distortion of the electron orbitals because of the magnetic field.

24. Ans. C.

- Photosynthesis, the process by which green plants and certain other organisms transform light energy into chemical energy.

- During photosynthesis in green plants, light energy is captured and used to convert water, carbon dioxide, and minerals into oxygen and energy-rich organic compounds

25. Ans. C.

- White colour light is emitted by the sun.

- It is a composite of all the visible frequencies of light.

- Sunlight can be broken into the full spectrum of its colors: red, orange, yellow, **green**, blue, indigo and violet

26. Ans. C.

- Avogadro's Law states that equal volume of all gases under the same conditions of

temperature and pressure contain equal numbers of molecules.

- The law is a specific case of the ideal gas law.

- **Avogadro's law's mathematical formula** can be written as: $V \propto n$ or $V/n = k$. Where "V" is the volume of the gas, "n" is the amount of the gas (number of moles of the gas) and "k" is a constant for a given pressure and temperature.

27. Ans. C.

- **Chiropody** is a branch of medical science that involves the assessment and management of foot and lower limb disorders.

- It includes the management of a wide variety of disorders, injuries, foot deformities, infections and local manifestations of systemic conditions.

28. Ans. C.

- Pernicious anemia is a condition caused by the deficiency of vitamin B12 in the body.

- It is a form of vitamin B12 deficiency anemia.

- Vitamin B12 helps the body to make healthy red blood cells and to keep nerve cells healthy.

29. Ans. B.

- Hydrogenation – meaning, to treat with hydrogen is a chemical reaction between molecular hydrogen (H₂) and another compound or element, usually in the presence of a catalyst such as nickel, palladium or platinum.

- The process is commonly employed to reduce or saturate organic compounds.

30. Ans. B.

- If the image of an object is viewed in two plane mirrors that are inclined to each other more than one image is formed. The number of images depends on the angle between the two mirrors. The number of images formed $n = (360/\theta) - 1$

The number of images formed = $(360/120) - 1$

$n = 2$

31. Ans. B.



- Cuprite is an oxide mineral composed of copper oxide Cu_2O , and is a minor ore of copper.

- The iron minerals that are at present used as ores are hematite, magnetite, limonite, and siderite.

- Hematite is the most important iron ore.

32. Ans. C.

- A Solution is the homogeneous mixture of two or more than two components.

- In such a mixture, a solute is a substance dissolved in another substance, known as a solvent.

- Homogeneous means that the components of the mixture form a single phase. Heterogeneous means that the components of the mixture are of different phase.

33. Ans. D.

- **Magnesium Sulphate is also known as Epsom salt.**

- It is used as a healing agent and pain reliever.

- When Epsom salt is dissolved in water, it releases magnesium and sulfate ions.

34. Ans. C.

- **Galinstan is used as a substitute of mercury in thermometers.**

- It is used due to its nontoxic properties.

- The inner tube surface of thermometer is coated with gallium oxide to prevent the alloy from wetting the glass surface.

35. Ans. D.

- **Piscicides is used to control pest fish.**

- It is a chemical substance which is poisonous to fish, used to combat parasitic and invasive species of fish.

- **Rotenone, Saponin are some examples of piscicides.**

36. Ans. A.

- Malic Acid, Tartaric Acid & citric Acid are present in grapes.

- Tartaric and malic acid accounts for over 90% of the total acids present.

So, it can be said that Acetic acid is not present in grapes.

37. Ans. C.

- The primary female reproductive organ is the **ovary**.

- Females have 2 ovaries, each about the size of a walnut, located on either side of the lower abdominal cavity.

38. Ans. C.

- **DNA (deoxyribonucleic acid)** is a natural flame retardant.

- Its chemical structure makes it ideal for stopping fires.

- It is the hereditary material in humans and almost all other organisms.

39. Ans. D.

- **Copper** is the only metal that is **antibacterial**.

- Titanium, cobalt, nickel, copper, zinc, zirconium, molybdenum, tin, and lead have been tested for their antibacterial properties against two bacterial strains, Gram-positive Staphylococcus aureus and Gram-negative Escherichia coli.

- Copper is one of the few metals that can occur in nature in a directly usable metallic form.

40. Ans. D.

- **Hemoglobin** performs the task of capturing oxygen in the blood.

- Hemoglobin captures oxygen and transports it through the bloodstream by binding oxygen to each of its four heme groups.

- Hemoglobin is contained in red blood cells, which efficiently carries oxygen from the lungs to the tissues of the body.

41. Ans. D.

- **Cirrhosis** is not transmitted from one person to another.

- Cirrhosis is also known as liver cirrhosis or hepatic cirrhosis.

- It is a condition in which the liver does not function properly due to long-term damage.

42. Ans. C.

- Ozone at higher levels of atmosphere is a product of UV radiation acting on oxygen molecule ,



- Higher energy UV radiations split apart some molecular oxygen into free oxygen atoms.

- In the ozone layer the molecular oxygen absorbs UV radiations and forms a ozone molecule by a photochemical reaction.

43. Ans. C.

- Oesophagus is the food tube.

- It connects mouth to stomach.

- When we swallow food, the walls of the oesophagus squeeze together (contract). This moves the food down the oesophagus to the stomach.

44. Ans. C.

- The closest orbital to the nucleus, called the 1s orbital, can hold up to two electrons.

- This orbital is equivalent to the innermost electron shell of the Bohr model of the atom.

- The second shell can hold up to eight (2 + 6) electrons, the third shell can hold up to 18 (2 + 6 + 10) and so on.

45. Ans. A.

- Scandium is a chemical element with the symbol Sc and atomic number 21

- A silvery-white metallic d-block element, it has historically been classified as a rare-earth element, together with yttrium and the lanthanides.

- Scandium has **13 isotopes** whose half-lives are known, with mass numbers 40 to 52

- Naturally occurring scandium consists of its one stable isotope, ^{45}Sc .

46. Ans. B.

- Manganese dioxide is used to remove the green colour from glass.

- Manganese dioxide is black in colour.

- In a very slow process Manganese dioxide is converted to sodium permanganate, a dark purple compound.

47. Ans. B.

- Tin has the lowest melting point of 232 °C among the given elements.

- Tin is a chemical element with the symbol Sn and atomic number 50

- Tin is a silvery metal that characteristically has a faint yellow hue.

- Tin is a soft element that can be cut without much force.

48. Ans. D.

- Zirconium is a chemical element with the symbol Zr and atomic number 40.

- The atomic mass of zirconium is 91.224

- The name zirconium is taken from the name of the mineral zircon, the most important source of zirconium.

- It is a lustrous, grey-white, strong transition metal that closely resembles hafnium and, to a lesser extent, titanium.

49. Ans. D.

- * Canada balsam has its refractive index closest to that of crown glass.

- * Due to its similarity, Canada balsam was traditionally used in optics as an invisible-when-dry glue for glass.

50. Ans. D.

- * **Mercury is not an insulator.**

- * It is a poor conductor of heat, but a fair conductor of electricity.

- * Dry Paper, Ebonite & Glass are insulators.

51. Ans. B.

- * **Ammonium is a cation.**

- * It is a positively charged polyatomic ion.

- * Its chemical formula is NH_4^+ .

52. Ans. A.

- * **D stands for Dioptre.**

- * It is a unit of refractive power.

- * It is equal to the reciprocal of the focal length of a given lens.

53. Ans. C.

- The **Widal test** is one method that may be used to help make a presumptive diagnosis of enteric fever, also known as typhoid fever.

- The Widal test detects agglutinating antibodies against the O and H antigens of S. Typhi.

- The Widal test was developed over a century ago and remains one of the world's most widely used diagnostic tests.

54. Ans. D.

- The permanent hardness present in the water can be removed by treating it with washing soda.



- Insoluble carbonates are formed when washing soda reacts with the sulfide and chloride salts of magnesium and **calcium** and thus hard water is converted to soft water.

55. Ans. B.

- Human alphaherpesvirus 3 (HHV-3), usually referred to as the varicella-zoster virus (VZV), is one of nine herpesviruses known to infect humans.

- It causes chickenpox (varicella), a disease most commonly affecting children, teens, and young adults, and shingles (herpes zoster) in adults.

56. Ans. A.

- The standard SI unit for pressure measurement is the Pascal (Pa) which is equivalent to one Newton per square meter (N/m²) or the Kilo Pascal (kPa) where 1 kPa = 1000 Pa.

- The SI base unit for distance is meter, according to the International System of Units.

- Meter is denoted by 'm'.

57. Ans. A.

- Velocity of sound in air is 343 m/sec.

- Speed of sound is different for different mediums.

- Sound travels faster in solids as compared to liquids and gases.

58. Ans. C.

- Osmium is the densest stable element known on Earth.

- Osmium is a chemical element with the symbol Os and atomic number 76.

- It is a hard, brittle, bluish-white transition metal in the platinum group that is found as a trace element in alloys, mostly in platinum ores.

59. Ans. B.

- Propane has 3 carbon atoms and 8 hydrogen atoms.

- It belongs to the alkane group as it contains only single bonds.

- It has a chemical formula C₃H₈.

- It is commonly used as fuel.

60. Ans. B.

- **Benzene** is an organic chemical compound with the molecular formula C₆H₆.

- The bond angle is 120 degrees in the structure of the benzene molecule.

- It has a regular hexagonal structure.

61. Ans. A.

- Torr is a unit of Pressure.

- The torr is not part of the International System of Units.

- The unit was named after Evangelista Torricelli, an Italian physicist and mathematician, who discovered the principle of the barometer in 1644.

62. Ans. C.

- **Mitochondria** are known as the powerhouses of the cell.

- Mitochondria are tiny organelles inside cells that are involved in releasing energy from food.

- This process is known as **cellular respiration**.

63. Ans. A.

- Night blindness is caused by **vitamin A** deficiency.

- Vitamin A, also called retinol, plays a role in transforming nerve impulses into images in the retina.

64. Ans. D.

- Citric acid is found in **lemons**.

- It is also found in apples and cherries, and responsible for aspects of their flavour.

- Lemons also contain ascorbic acid, also known as **vitamin C**.

65. Ans. B.

- **Hydrogen** has three naturally occurring isotopes:

Protium, Deuterium, and Tritium.

66. Ans. A.

- The yellow dust present in the middle of a flower is called **pollen**.

- It is a very fine powder produced by trees, flowers, grasses, and weeds to fertilize other plants of the same species.

67. Ans. B.

- * The rating for a fuse used in a household electric circuit is provided on the basis of current.



* A fuse is nothing more than a short length of wire designed to melt and separate in the event of excessive current. Fuses are always connected in series with the component(s) to be protected from overcurrent, so that, when the fuse blows (opens), it will open the entire circuit and stop current through the component(s).

68. Ans. D.

* In aerobic conditions, the process converts one molecule of glucose into two molecules of pyruvate (pyruvic acid), generating energy in the form of two net molecules of ATP. Four molecules of ATP per glucose are actually produced, however, two are consumed as part of the preparatory phase.

69. Ans. D.

* Constantan is a copper-nickel alloy also known as Eureka.

* It usually consists of 55% copper and 45% nickel. Its main feature is the low thermal variation of its resistivity, which is constant over a wide range of temperatures.

70. Ans. D.

* The plastics are the non-biodegradable wastes because they are synthetic polymers which cannot be acted upon by the microbes.

* The non-biodegradable wastes become useful when they can be recycled.

71. Ans. C.

* Pedology is defined as the science that studies the genesis, nature, distribution and uses the potentiality of soil resources.

* It is one of two main branches of soil science, the other being edaphology.

72. Ans. D.

• Snails belong to Mollusca Phylum.

• Snails and slugs belong to a large taxonomic class of invertebrates within the phylum Mollusca and are also called Gastropoda.

• Mollusca is the second-largest phylum of invertebrate animals after the Arthropoda.

73. Ans. B.

• **Argon is an inert gas most commonly found in light bulbs.**

• It is also used as an **inert shielding gas in welding** and other high-temperature industrial processes.

• It is the **third-most abundant gas** in the Earth's atmosphere.

74. Ans. A.

• **Crocodiles have a four chambered heart.**

• They have **heart valves** that direct blood flow in a single direction through the heart chambers.

• They have **thick skin** and are **covered in non-overlapping scales.**

• The largest number of attacks comes from the Nile crocodile.

75. Ans. A.

• **Haemophobia is the fear of blood.**

• Blood phobia is often **caused by direct or vicarious trauma** in childhood or adolescence.

• **Blood** is a body fluid in humans and other animals that delivers necessary substances, such as nutrients and oxygen, to the cells and transports metabolic waste.

76. Ans. A.

Newton's law of universal gravitation applies to any pair of bodies. It states that a particle attracts every other particle in the universe using a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between their centres.

77. Ans. B.

When a light wave is reflected from a mirror, there is a change in **its amplitude** because reflected wave is reflected in phase with the incoming wave.

78. Ans. A.

Price elasticity of demand (PED or Ed) is a measure used in economics to show the responsiveness, or elasticity, of the quantity demanded of a good or service to a change in its price. The formula for the coefficient of price elasticity of demand for a good is



$$\frac{dQ/Q}{dP/P}$$

: $e_{(R)}$ where $e_{(R)} =$

Elasticity of demand; $dQ/Q =$ % change in demand and $dP/P =$ % change in price

79. Ans. C.

The seed includes three primary regions: the embryo, nutritive tissue, and seed coat. Endosperm is a nutritive tissue that sustains the embryo and seedling. The endosperm may be consumed by the embryo, as in many legumes, which use the cotyledons as a food source during germination.

80. Ans. A.

Atmospheric pressure is measured by barometer. Barometer was invented by Evangelista Torricelli in the year 1643. Atmospheric pressure changes with distance above or below sea level, a **barometer** can also be used to measure altitude.

81. Ans. A.

Chemical energy is the potential of a **chemical substance** to undergo a transformation through a chemical reaction to transform other chemical substances. Examples include **batteries, light bulbs, cells, nuclear weapons** and many more.

82. Ans. B.

- **Pir** is the Guru of the Sufis.
- **Pir** is a title for a **Sufi** master or spiritual guide. They are also referred to as a Hazrat or Shaikh, which is Arabic for Old Man.

83. Ans. B.

- Polarisation of light is only observed in case of transverse waves and not for longitudinal waves.
- In a transverse wave, the direction of the oscillation is perpendicular to the direction of motion of the wave.

84. Ans. A.

In mechanics, matter waves or de Broglie waves reflects the wave-particle duality of matter. The de Broglie relation show that the wavelength is inversely proportional to

the momentum of a particle and is also called de Broglie wave length.

85. Ans. D.

- The gravitational constant, approximately **$6.674 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$** .
- It usually appears in Newton's law of universal gravitation, and in Albert Einstein's general theory of relativity.
- It is also known as the universal gravitational constant.
- The dimensional formula for universal gravitational constant is **$\text{M}^{-1}\text{L}^3\text{T}^{-2}$** .

86. Ans. C.

Neurons are cells within the nervous system and carry message. The longest axons in the human body are those of the sciatic nerve, which run from the base of the spinal cord to the big toe of each foot. The diameter of axons is also variable.

87. Ans. A.

- Alfred Lothar Wegener proposed continental drift theory in 1912.
- He was a German polar researcher, geophysicist and meteorologist.
- His hypothesis was controversial and not widely accepted until the 1950s, when numerous discoveries such as palaeomagnetism provided strong support for continental drift, and thereby a substantial basis for today's model of plate tectonics.

88. Ans. A.

- In Moseley's periodic table, elements were arranged according to their increasing **atomic number**.
- This principle of arranging elements was first proposed by him in **1913**.

89. Ans. B.

- The amount of incident-wave energy that is reflected from a surface depends on the nature of the surface and the angle at which the wave strikes the surface.
- **The amount of wave energy reflected increases as the angle of incidence increases.**



90. Ans. B.

Two kinds of Rotatory motion are Spin and Orbital motion. However in a rotational motion an object moves around an axis passing through its body. Say the rotation of earth, earth rotates around an axis passing through both of its poles(north pole and south pole).

91. Ans. C.

- Sponges belong to the phylum porifera.
- They are multicellular parazoan organisms that have bodies full of pores and channels allowing water to circulate through them.
- They don't have their own nervous and digestive system and rely on water flow to obtain food.
- Porifera is a phylum which includes spore bearing aquatic animals which are found in salty, fresh water in shallow and deep seas.

92. Ans. C.

- For every action, there is an equal and opposite reaction is Isaac newton's third law of motion.
- However the third law states that when one body exerts a force on a second body, the second body simultaneously exerts a force equal in magnitude and opposite in direction on the first body.
- In totality he has given three laws relating to the motion of the body and forces acting upon it.

93. Ans. B.

Dmitri Ivanovich Mendeleev was a Russian chemist and inventor. He formulated the Periodic Law, created a farsighted version of the periodic table of elements in 1869, and used it to correct the properties of some already discovered elements and also to predict the properties of eight elements yet to be discovered.

94. Ans. B.

- In chemistry and physics, the Avogadro constant is define as the number of constituent particles

(usually atoms or molecules) in one mole of given substance it has dimensions of reciprocal mol.

- Its value is equal to 6.023×10^{23} .

95. Ans. C.

- The nephron, the basic structural and functional unit of kidney, regulated the concentration of water and soluble substances like sodium salts by filtering the blood, reabsorbing what is needed and excreting the rest as urine.

96. Ans. A.

- Chlorophyll-containing autotrophic thallophytes are called as **Algae**.
- They can prepare their own food in the presence of sunlight by the process of photosynthesis due to the presence of chlorophyll.

97. Ans. A.

- Acids are sour in taste due to sour H^+ ions. An acid is a substance that donates hydrogen ions. Because of this, in an acidic solution, there are more hydrogen ions than hydroxide ions. This means the more acidic a food is, the more hydrogen ions are available to trigger the sour taste receptors.
- Bases generate OH^- ions and due to it, they are bitter in taste.

98. Ans. B.

Rate of work done is Power. Power is defined as the work done per unit time. Power is generally measured in watt.

1 watt= 1joule/1second

Energy is the capacity of doing work.

Impulse- Impulse is the change of momentum of an object when the object is acted upon by a force for an interval of time.

Momentum- Mass \times velocity

99. Ans. C.

Chloroquin is used in Anti-Malarial drug. Chloroquine was discovered in 1934 by Hans Andersag. It is commonly used in areas where malaria is common. Malaria is a caused by parasite.

100. Ans. B.



- Pneumonia caused due to infection from bacteria and viruses is an inflammatory disease affecting the lungs and primarily the small air sacs known as alveoli.
- Symptoms include dry cough, chest pain, fever and trouble breathing.
- It can be prevented by regular hand wash and avoidance of smoking.
- Oxygen treatment is the therapy for it.

101. Ans. D.

Variation of g -

- a) Gravity g decreases with height
- b) Gravity g is maximum at poles
- c) Gravity g is minimum at equator
- d) Gravity g decreases due to rotation of the earth

All of the given statements are true.

102. Ans. B.

Concave mirror used in the headlights of automobiles Because when the bulb of **headlight** is placed at focus of **concave mirror** it will allow the light to spread out to infinity.

103. Ans. D.

All of these are caused by atmospheric refraction of light.

104. Ans. B.

Adolf Gaston Eugen Fick invented the contact lens. He was a German ophthalmologist. In 1888, he constructed and fitted what was to be considered the first successful model of a contact lens: an afocal scleral contact shell made from heavy brown glass, which he tested first on rabbits, then on himself, and lastly on a small group of volunteers.

105. Ans. A.

The Malpighian tubule is an excretory organ found in some some insects, myriapods, arachnids, and tardigrades. It is also an osmoregulatory system. It consists of branching tubules extending from the alimentary canal that absorbs solutes, water, and wastes from the surrounding hemolymph.

106. Ans. B.

- a) **Becquerel** is the SI unit of radioactivity.
- b) 1 becquerel = 1 radioactive decay per second .

c) An older radioactivity unit is the curie (Ci) and named after Pierre and Marie Curie.

107. Ans. B.

The sclera is a part of the eye ordinarily known as the "white." It frames the supporting mass of the eyeball, and is ceaseless with the clear cornea. The sclera is secured by the conjunctiva, a clear bodily fluid film that greases up the eye. It is thickest in the region encompassing the optic nerve.

108. Ans. C.

Atoms of the same element that have the same atomic number, but have different atomic weights, are called isotopes. They contain the same number of protons in each atom, while the number of neutrons varies. Because of this, the atomic number remains the same, but the mass of the atom varies. E.g., Three hydrogen atoms have the same number of protons, but the number of neutrons varies.

109. Ans. A.

- Typhoid fever is a bacterial infection caused due to Salmonella typhi.
- Often there is a gradual onset of a high fever over several days.
- Antibiotic therapy is the only effective treatment for typhoid fever.

110. Ans. B.

- मेथनॉल, जिसे मिथाइल अल्कोहल, लकड़ी शराब, लकड़ी नफथा, मिथाइल हाइड्रेट या लकड़ी आत्माओं के रूप में भी जाना जाता है, सूत्र CH_3OH के साथ एक रसायन है।
- मेथनॉल ने "लकड़ी शराब" नाम प्राप्त कर लिया क्योंकि यह एक बार मुख्य रूप से लकड़ी के विनाशकारी आसवन के उपोत्पाद के रूप में उत्पादित किया गया था। आधुनिक दिन मेथनॉल उत्पादन कार्बन मोनोऑक्साइड, कार्बन



डाइऑक्साइड और हाइड्रोजन से सीधे एक उत्प्रेरक औद्योगिक प्रक्रिया में होता है।

111. Ans. D.

- Lactogenic hormone is gonadotropic hormone secreted by the anterior pituitary.
- In females it stimulates growth of the mammary glands and lactation after parturition.

112. Ans. C.

Most heating elements use Nichrome 80/20 (80% nickel, 20% chromium) wire, ribbon, or strip. Nichrome 80/20 is an ideal material, because it has relatively high resistance and forms an adherent layer of chromium oxide when it is heated for the first time. Material beneath this layer will not oxidize, preventing the wire from breaking or burning out.

113. Ans. C.

Hans Christian Oersted was a Danish physicist and chemist who discovered that electric currents create magnetic fields, which was the first connection found between electricity and magnetism.

114. Ans. D.

- **Kepler** proved that the path of each planet around the Sun is elliptical. The German astronomer Johannes Kepler described what later became known as the three laws of planetary motion in the early 17th century.
- His first and most famous discovery was that the planets move around the Sun in orbits shaped like ellipses.

115. Ans. D.

The mass number (A), also called atomic mass number or nucleon number, is the total number of protons and neutrons (together known as nucleons) in an atomic nucleus. It is usually more than the atomic

number except in the case of hydrogen where no neutron is present.

116. Ans. C.

Sulphur dioxide and nitrogen oxides both combine with water in the atmosphere to create Sulphuric acid. Acid rain acidifies the soils and waters where it falls, killing off plants.

117. Ans. A.

The **kilowatt-hour** is a unit of energy equivalent to **one kilowatt of power** expended for one hour (1 h) of time. It is commonly used in electrical applications. An energy expenditure of 1 kWh represents **3,600,000 joules** (36×10^5 Joules).

118. Ans. B.

- When the heart is not beating in a regular pattern, this is referred to as **Arrhythmia**. **Heart arrhythmia** is a group of conditions in which the **heartbeat** is irregular, too fast, or too slow.
- It is also known as **cardiac dysrhythmia** or **irregular heartbeat**.

119. Ans. A.

The phenomenon which causes mirage is Total internal reflection. A Mirage is an optical phenomenon or an optical illusion caused due to refraction of light. Mirage happens in desert areas where people see water near the horizon and try to get it, but as they go closer, water goes further. This is because actually there is no water.

120. Ans. C.

In aquatic animals such as fish respiration takes place through special respiratory organs called gills, however lung fish respiration takes place through lungs.

121. Ans. C.

- The seismograph is an instrument that measures seismic waves caused by an earthquake.
- The Richter scale calculates an earthquake's magnitude (size) from the amplitude of the earthquake's



largest seismic wave recorded by a seismograph.

- The Mercalli intensity scale is a **seismic intensity** scale used for measuring the intensity of an earthquake.
- Likert scale is a scale used to represent people's attitudes to a topic.

122. Ans. A.

Periodic motion, in physics, **motion** repeated in equal intervals of time.

Periodic motion is performed, for example, by a rocking chair, a bouncing ball, a vibrating tuning fork, a swing in **motion**, the Earth in its orbit around the Sun, and a water wave.

123. Ans. A.

By specific energy of hydrogen (140 KJ/Gm) is the Hydrogen is the best fuel in terms of energy released per gram of fuel. However, vehicles must inherently carry their fuel supply, so to determine which fuel is best for motor vehicles; energy density of the fuel is the next measurement.

124. Ans. D.

- Saprophytic nutrition is the type of nutrition where the organism feeds on dead and decaying matter.
- Example - Rhizopus, Mucor, Yeast, Agaricus(mushroom).

125. Ans. D.

- **Fructose** is a simple ketonic monosaccharide found in many plants, where it is often **bonded to glucose** to form the disaccharide sucrose.
- Pure, dry fructose is a very sweet, white, odourless, crystalline solid and is the most water-soluble of all the sugars.

126. Ans. C.

Plants synthesize protein from amino acids from the Primary elements, the Carbon and Oxygen obtained from air, Hydrogen from water in the soil, forming Carbon Hydrate by means of photosynthesis and combining

it with the Nitrogen which the plants obtain from the soil, leading to synthesis of amino acids, by collateral metabolic pathways. The basic component of living cells is Proteins, with building block material, Amino Acids. Proteins are formed by sequence of Amino Acids.

127. Ans. C.

Newton first law of motion is also called as the law of inertia. According to this law, an object will remain at rest or move at a constant speed in a straight line unless it is acted on by an unbalanced force.

128. Ans. B.

- **Medulla oblongata** is a part of **brain** and located in the **lower part** of the brain stem below the cerebellum.
- It is responsible for the happening of involuntary functions like breathing, heart rate, blood pressure, vomiting, sneezing and so on.

129. Ans. B.

- **Dry ice or Cardice is solid CO₂** is used to freeze meat, food, ice-cream and in the laboratory as a coolant.
- It is useful for preserving frozen foods.

130. Ans. A.

- The cerebrum controls cognitive and sensory functions such as intelligence, memory, reasoning and emotions.
- The cerebellum controls balance and movement.
- The medulla is regulating our involuntary life-sustaining functions such as breathing, swallowing and heart rate.

131. Ans. D.

- **Nicholas Callan invented the Induction Coil.**
- It is the first type of transformer and used to produce high-voltage pulses from a low-voltage direct current (DC) supply. To create the flux



changes necessary to induce a voltage in the secondary coil, the direct current in the primary coil is repeatedly interrupted by a vibrating mechanical contact called an interrupter.

132. Ans. B.

John Barber invented the gas turbine. A gas turbine is a type of internal combustion engine. It has an upstream rotating compressor coupled to a downstream turbine, and a combustor. A patent was given to John Barber, an Englishman, for the first true gas turbine. The turbine was designed to power a horseless carriage.

133. Ans. A.

- **William S. Gaud** was appointed Executive Vice President of IFC on October 1, 1969. Prior to his joining the Corporation, he had been administrator of the U.S. Agency for International Development.
- A strong advocate for the developing world, he had coined the term "Green Revolution" to describe how agricultural breakthroughs could better feed poor countries.

134. Ans. A.

- Ammonium chloride (NH_4Cl) is generally considered as an ionic compound but this compound has three different types of bond.
- There is ionic bond between NH_4^+ ion and Cl^- ion. There are N-H covalent bonds.
- The formation of NH_4^+ from NH_3 is sometimes described as the formation of a coordinate bond between NH_3 and H^+ , however once the bond is formed there is no difference between the four N-H bonds, NH_4^+ has a tetrahedral structure.

135. Ans. B.

- A black body is an idealized physical body that absorbs all incident

electromagnetic radiation, regardless of frequency or angle of incidence.

- A body absorbs heat most if it is black and rough since rough surface has more surface area to absorb.

136. Ans. B.

Vinegar is a liquid consisting mainly of acetic acid (CH_3COOH) and water. The acetic acid is produced by the fermentation of ethanol by acetic acid bacteria.

137. Ans. D.

- Ostrich egg is the largest known cell.
- Ostrich egg before fertilization consists of a single cell weighing up to 5 pounds and is the largest single cell.
- Cells are the building blocks of life and the smallest unit which can replicate independently.

138. Ans. D.

Aromatic hydrocarbons contain at least one benzene like ring in their molecules. Aromatic compounds are made up of benzene ring structures with delocalized π (pi) electron density that imparts unusual stability and strong odour to the hydrocarbons. They are less reactive and useful industrial solvent produced from petroleum and coal tar. Example: Naphthalene balls.

139. Ans. C.

- **Karyology** is known as the study of cell nucleus and chromosomes.
- **Mycology** - Study of Fungi
- **Sarcology** - Study of Muscles
- **Orthopedics** - Diagnosis and repair of bone, joints etc.

140. Ans. C.

Here, infinitive (-to+v₁) i.e "to know the strengths and weaknesses" should be used in the third part of the statement. "To" in the phrase "to know" is used as a preposition which denotes the purpose. Hence, option C is the correct response.

141. Ans. C.

- **Mitosis** is a type of cell division that results in two daughter cells each



having the same number and kind of chromosomes as the parent nucleus.

- Mitosis consists of four basic phases: prophase, metaphase, anaphase, and telophase.

142. Ans. A.

Kidney stones are composed of **Calcium oxalate**.

- Calcium oxalate is a calcium salt of oxalic acid with the chemical formula **CaC₂O₄**.

- Calcium oxalate is a **poisonous** substance that can produce sores and numbing on **ingestion** and may even be fatal.

- Many plants accumulate calcium oxalate as it has been reported in more than 1000 different genera of plants.

143. Ans. B.

Sodium carbonate is well known domestically for its everyday use as a water softener. It can be extracted from the ashes of many plants growing in sodium-rich soils, such as vegetation from the Middle East, kelp from Scotland and seaweed from Spain.

144. Ans. C.

Rennin chief role is in digestion to curdle or **coagulate** milk in the stomach.

145. Ans. A.

- **Wood is a bad conductor of heat** because it is a covalent compound, so they are used as handles of metal teapots.

- Wood can't conduct heat & electricity as the electrons in it are bound to parent atom and are not free to move, so it does not possess freely movable charges; hence they cannot conduct electricity.

146. Ans. B.

- Safety fuse wire used in domestic electrical appliances is made of metal of **low Melting point**.

- A **fuse** has high **resistance** with **low melting point**.

147. Ans. A.

Graves' disease is an immune system disorder that results in the overproduction of thyroid hormones (hyperthyroidism). Although a number of disorders may result in hyperthyroidism, Graves' disease is a common cause. Signs and symptoms of hyperthyroidism may include irritability, muscle weakness, sleeping problems, a fast heartbeat, poor tolerance of heat, diarrhea, and weight loss.

Thyroid and parathyroid are organs with different functions.

148. Ans. C.

- The cell is the basic structural, functional and biological unit of all known living organisms.

- **The cell was discovered by Robert Hooke in 1665.**

149. Ans. B.

- **Endosperm** is a tissue produced inside the seeds of most of the flowering plants around the time of fertilization.

- The endosperm of coconut contains a large quantity of clear liquid which is called "coconut milk" or coconut water.

- Scientific Name of coconut is *Cocos nucifera*.

150. Ans. B.

Chlorophyll gives leaves their **green color** and **absorbs** light that is used in **photosynthesis**.



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