

Question 1: Give the ratio in which hydrogen and oxygen are present in water by volume?

- a) 1:2
- b) 1:1
- c) 2:1
- d) 1:8

Question 2: Plasma membrane is a _____ membrane.

- a) Semi permeable
- b) Selectively permeable
- c) Permeable
- d) Non-Permeable

Question 3: What is the basic structural and functional unit of life?

- a) Tissue
- b) Organelle
- c) Cell
- d) Organ

Question 4: When Ag is exposed to air, it gets a black coating of

- a) AgNO_3
- b) Ag_2O
- c) Ag_2S
- d) Ag_2CO_3

Question 5: What is the name for the region between the orbits of mars and Jupiter that contains many asteroids?

- a) Kuiper Belt
- b) Asteroid Belt
- c) Oort cloud
- d) Milky way

Question 6: What is the term for a Large Collection of stars that are held together by gravity?

- a) Solar System
- b) Nebula
- c) Galaxy
- d) Constellation

Question 7: Which of the following is the SI Unit of force?

- a) Kg m/s
- b) Kg m/s^2
- c) Newton-metre
- d) Newton

Question 8: The Linear momentum of an object is 250gcm/s . if the velocity of the object is 5m/s , then the mass of the object is

- a) 0.5g
- b) 5kg
- c) 0.5mg
- d) 5mg

Question 9: The inertia of an object causes the object to

- a) decrease its speed
- b) increase its speed
- c) resist any change in the state of its motion
- d) decelerate due to friction

Question 10: Which of the following is correct term for a pair of contrasting characters in genetics

- a) Homozygous
- b) Heterozygous
- c) Allelomorphs
- d) Co-dominant

Question 11: Which one is a specific stain for DNA?

- a) Iodine Solution
- b) Benedict's reagent
- c) Fehling's solution
- d) Basic fuchsin

Question 12: The mathematical formulation of the second law of motion is given by

- a) $F = ma$
- b) $F = m/a$
- c) $F = m + a$
- d) $F = m - a$

Question 13: What is an astronomical unit (AU)?

- a) The distance light travels in one year
- b) The average distance between the Earth and the sun
- c) The distance to the nearest star system
- d) The time it takes for a planet to orbit the sun

Question 14: What type of reaction is respiration?

- a) Exothermic
- b) Endothermic
- c) Reduction reaction
- d) Combination reaction

Question 15: $\text{CuSO}_4 + \text{Zn} \rightarrow \text{Cu} + \text{ZnSO}_4$, This reaction is an example of a

- a) Combination reaction
- b) Double displacement reaction
- c) Decomposition reaction
- d) Displacement reaction

Question 16: What significant event occurred in Nepal in 2015?

- a) A volcanic eruption
- b) A large earthquake
- c) A major flood
- d) A severe drought

Question 17: What does the phrase “anthropogenic CO₂ emissions” mean?

- a) Natural CO₂ emissions
- b) Human made CO₂ emissions
- c) Industrial CO₂ emissions
- d) All of the mentioned

Question 18: In the lower layers of atmosphere, what range of wavelengths of “Light” is predominant?

- a) Between 100-300nm
- b) Less than 100 nm
- c) Greater than 300nm
- d) All wavelengths are equally present

Question 19: Which of the following is not an element of weather and climate?

- a) Temperature
- b) Vegetation
- c) Wind
- d) Humidity

Question 20: Rocket works on the principle of Conservation of

- a) Mass
- b) Energy
- c) Momentum
- d) Velocity

Question 21: Which region experiences most of its precipitation in the form of snowfall?

- a) Tamil Nadu coast
- b) Western Rajasthan
- c) Upper parts of the Himalayas
- d) Andaman islands

Question 22: Which of the following is not directly influenced by relief features?

- a) Rainfall
- b) Solar Radiation
- c) Temperature barrier
- d) wind obstruction

Question 23: Which of the following greenhouse gas is contributed by cattle farming?

- a) Carbon monoxide
- b) Nitrous oxide
- c) Methane
- d) All of the mentioned

Question 24: What do we call a group of stars forming a recognizable pattern in the night sky?

- a) Asteroid
- b) Constellation
- c) Galaxy
- d) Cluster

Question 25: Thermal decomposition means decomposition caused due to

- a) Electric current
- b) Light
- c) Heat
- d) Catalyst

Question 26: Which of the following elements belongs to the alkali metals group?

- a) Na (Sodium)
- b) Cl (Chlorine)
- c) Ne (Neon)
- d) Mg (Magnesium)

Question 27: Which organelle is responsible for synthesizing proteins?

- a) Endoplasmic reticulum
- b) Golgi apparatus
- c) Ribosome
- d) Vacuole

Question 28: Which unit is used to measure astronomical distance?

- a) leap year
- b) Light year
- c) Century
- d) sound year

Question 29: Which of the following is NASA's most famous space telescope launched in 1990, known for its deep space images?

- a) The Hubble Space Telescope
- b) James Webb Space Telescope,
- c) Chandra X-ray Observatory telescope
- d) Spitzer Space Telescope

Question 30: The tendency of an offspring to resemble its parents is known as

- a) Variation
- b) Heredity
- c) Resemblance
- d) Inheritance

Question 31: A ball is thrown vertically upward in a train moving with uniform velocity. The ball will

- a) Fall behind the thrower
- b) Fall ahead of the thrower
- c) Return back to the thrower
- d) Fall on the left of the thrower

Question 32: What are 'Loo' winds?

- a) Moist winds from the Bay of Bengal
- b) Cool sea breezes
- c) Hot, dry winds in north India during summer
- d) Winds that bring winter rainfall

Question 33: The plastic layer of the Earth's mantle is known as the

- a) Lithosphere
- b) Asthenosphere
- c) Outer core
- d) Mesosphere

Question 34: What is the major cause of acid rain?

- a) Sulphur dioxide and nitrogen oxides from industries and vehicles
- b) Chlorofluorocarbons from Refrigerator
- c) Carbon monoxide from burning wood
- d) Methane from landfills

Question 35: Which of these does not constitute to be a reason for the loss of forest?

- a) Extinction of species
- b) Increasing use of food
- c) Building dams and mining
- d) Extensive usage of fuel woods

Question 36: What's the formula for kinetic energy?

- a) $KE = mgh$
- b) $KE = \frac{1}{2}mv^2$
- c) $W = F/d$
- d) $PE = Mgh$

Question 37: Assertion (A): Lysosomes are also known as "suicidal bags".

Reason (R): They contain hydrolytic enzymes that digest cell components when the cell is damaged.

- a) Both A and R are true, and R is the correct explanation of A.
- b) Both A and R are true, but R is not the correct explanation of A.
- c) A is true, but R is false.
- d) A is false, but R is true.

Question 38: Based on observations of the Universal expansion, the age of the universe is about

- a) 14 billion years
- b) 14 trillion years
- c) 14,000 years
- d) 14 million years

Question 39: The group known as Halogens is

- a) Group 1
- b) Group 17
- c) Group 18
- d) Group 2

Question 40: Who is known as the "Father of Genetics"?

- a) Morgan
- b) Mendel
- c) Watson
- d) Bateson

Question 41: DNA replication occurs through the activity of

- a) DNA polymerase
- b) Ribonuclease
- c) RNA polymerase
- d) Deoxyribonuclease

Question 42: Rocks like schist and marble are examples of

- a) Igneous rocks
- b) Sedimentary rocks
- c) Metamorphic rocks
- d) Carbonaceous rocks

Question 43: Who is called father of geology?

- a) John Butler
- b) Art Smith
- c) James Hutton
- d) Alfred Wagener

Question 44: Which of these days is celebrated in the form of “World Environment Day” all around the world?

- a) July 5th
- b) June 10th
- c) October 20th
- d) June 5th

Question 45: The energy possessed by an oscillating pendulum of a Clock is

- a) Kinetic energy
- b) Potential energy
- c) Restoring energy
- d) Mechanical energy

Question 46: How many total numbers of Biodiversity hotspots are there in the world?

- a) 36
- b) 32
- c) 28
- d) 18

Question 47: In which year forest conservation Act was amended?

- a) 1978
- b) 1988
- c) 1963
- d) 1952

Question 48: What is the ecliptic plane?

- a) The plane of the Sun's Equator
- b) The plane of the Earth's orbit around the Sun
- c) The plane of the Milky Way Galaxy
- d) The plane of the Earth's Equator

Question 49: Which element's melting point is the highest?

- a) Phosphorus Silicon
- b) Sulphur
- c) Silicon
- d) Chloride

Question 50: With which of the following does boron exhibit a diagonal relationship?

- a) Lithium
- b) Magnesium
- c) Silicon
- d) Aluminium

Question 51: Spindle fibers are made up of

- a) Intermediate filament
- b) Flagellin
- c) Humulin
- d) Tubulin

Question 52: The scientist who found the modern theory about the evolution of the solar System is

- a) Moulton
- b) Chamberlain
- c) Alfred Hale
- d) Laplace

Question 53: What are the factors affecting Kinetic energy?

- a) Mass
- b) Velocity
- c) Momentum
- d) All the above options

Question 54: Which of the planet is not geologically active?

- a) Mars
- b) Mercury
- c) Venus
- d) Earth

Question 55: Which of these are known as “Detrivores”?

- a) Decomposers
- b) Carnivores
- c) Herbivores
- d) None of the above

Question 56: The ozone layer, which protects the Earth from harmful UV radiation, is found in which layer of the atmosphere?

- a) Troposphere
- b) Stratosphere
- c) Mesosphere
- d) Exosphere

Question 57: When did geologists develop the theory of plate tectonics?

- a) in the mid 1800s
- b) in the early 1900s
- c) in the 1950s
- d) in the 1960s

Question 58: The sum of kinetic energy and potential energy is

- a) Mechanical energy
- b) Thermal energy
- c) Potential energy
- d) Kinetic energy

Question 59: Our universe consists of only about 4% Atoms. How much of it is Dark Matter and Dark Energy?

- a) 80% Dark energy, 16% Dark matter
- b) 68% Dark energy, 27% Dark matter
- c) 94% Dark Energy, 2% Dark matter
- d) 74% Dark Energy, 22% Dark matter

Question 60: What compound is employed in the Calibration of ultraviolet light?

- a) HgCl_2
- b) $\text{K}_2\text{Cr}_2\text{O}_7$
- c) $\text{Mg}(\text{OH})_2$
- d) KMnO_4

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