

PHYSICS

1. In the year 1925, who extracted lipids from an erythrocyte sample and found that lipid monolayers are good for measuring molecular surface area versus lateral pressure?
 - A) Carson and Eccles
 - B) Avery and Buck
 - C) Margulis and Ruska
 - D) Gorter and Grendel
2. How long will a sound wave take to travel 1.5km, which has a frequency of 5 kHz and wavelength of 6 cm?
 - A) 2.5 seconds
 - B) 50 seconds
 - C) 5 seconds
 - D) 25 seconds
3. Which of the following gases emits red light when electricity is passed through it?
 - A) Neon
 - B) Hydrogen
 - C) Argon
 - D) Helium
4. An electric iron requires a _____ fuse to prevent short circuiting.
 - A) 4 A
 - B) 3 A
 - C) 2 A
 - D) 5 A
5. Who first stated the principle of refraction that postulates that every substance has a specific bending ratio - 'refractive index'?
 - A) Dennis Gabor
 - B) Thomas Young
 - C) Willebrord Snellius
 - D) David Brewster
6. Calorimeter is a small container made of a thin sheet of _____ with good thermal conductivity.
 - A) silver
 - B) platinum
 - C) copper
 - D) cesium
7. Identify an example of plasma as a state of matter.
 - A) Blood
 - B) Dry ice
 - C) Freon
 - D) Neon sign bulbs
8. In the context of vernier calliper, an internal jaw is used to
 - measure:
 - A) the length correct up to 1 mm
 - B) the depth of a beaker
 - C) the length of a rod and diameter of a sphere
 - D) the internal diameter of a hollow cylinder and pipes
9. Who reconciled Dalton's atomic hypothesis with Gay-Lussac's results on the combination of volumes in 1811?
 - A) Robert Boyle
 - B) Amadeo Avogadro
 - C) Fred Hoyle
 - D) Jacques Charles
10. A small object is placed on the focus on the left side of a convex lens. Where will be the image formed?
 - A) At the centre on the right side of the lens.
 - B) At infinity on the left side of the lens.
 - C) At infinity on the right side of the lens.
 - D) At the focus on the right side of the lens.
11. Ernest Rutherford used about _____ thick gold foil for alpha scattering experiments.
 - A) 500 atoms
 - B) 1000 atoms
 - C) 900 atoms
 - D) 700 atoms
12. Why does the milkman add a very small amount of baking soda to fresh milk?
 - A) To reduce the pH of the fresh milk from 6 to slightly more acidic
 - B) To increase the pH of the fresh milk from 6 to slightly alkaline
 - C) To maintain the pH of the fresh milk at 6 for a longer time
 - D) To reduce the pH of the fresh milk from 6 to slightly alkaline
13. If a bar magnet is hung from a string, in which direction does its north pole point?
 - A) West
 - B) North
 - C) East
 - D) South
14. In the Right-Hand Thumb Rule, the thumb is directed towards the direction of:
 - A) current
 - B) electric field
 - C) motion of the conductor
 - D) magnetic field
15. Which type of radiation has very short (<10 nm) wavelengths, produced by nuclear explosions, lightning and less dramatic activity of radioactive decay?
 - A) Gamma
 - B) Infra-red
 - C) Microwave
 - D) Ultraviolet
16. Name the phenomenon where an opaque object on the path of light becomes very small and where light has a tendency to bend around it and not walk in a straight line.
 - A) Reflection of light
 - B) Diffraction of light
 - C) Angle of refraction
 - D) Angle of incidence
17. Which of the following two quantities have the same dimensions?
 - A) Work and torque
 - B) Power and moment of inertia
 - C) Work and angular displacement
 - D) Power and radius of circular motion
18. In the context of periodicity, a unit called picometre is used to measure the _____.
 - A) atomic radius
 - B) molar mass
 - C) atomic density
 - D) spin quantum number
19. What happens when two forces act in the opposite directions on an object?
 - A) The net force acting on the object is the difference between the two objects.
 - B) The net force acting on the object is the difference between the two forces.
 - C) The net force acting on the object is the total of the two forces.
 - D) The net force acting on the object is the sum of the two objects.
20. A dense mass of water drops on smoke or dust particles in the lower atmosphere layers is referred to as:
 - A) mist
 - B) blizzard
 - C) frost
 - D) smog

21. Identify the **INCORRECT** pair regarding motion and their examples?
 A) Translatory motion – A ball falling from the cliff
 B) Periodic motion – Hands of a clock
 C) Oscillatory motion – Earth moving around the sun
 D) Rotatory motion – blades of a fan
22. What was the name of the wind measuring instrument invented for the first time in 1450?
 A) Transmissometer
 B) Dropsonde
 C) Anemometer
 D) Ceiling Projector
23. A javelin thrown by an athlete is in _____ motion.
 A) oscillatory
 B) periodic
 C) rectilinear
 D) curvilinear
24. Which of the following is NOT a unit of energy?
 A) Joule
 B) Calorie
 C) Newton
 D) Kilowatt hour
25. Which of the following statements is NOT correct?
 A) Light year is the unit of distance.
 B) Light year is the distance travelled by light in one year.
 C) Light year is the unit of time.
 D) Angstrom is unit of length.
26. What is the unit of specific resistance?
 A) Farad
 B) Ampere
 C) Coulomb
 D) Ohm meter
27. Which famous experiment was done by Michael Faraday in 1831?
 A) Discovery of quantum magnetometers
 B) Discovery of law of elasticity
 C) Discovery of electromagnetic induction
 D) Discovery of natural radioactivity
28. What is the unit of measurement for optical power of the lens?
 A) Yotta
 B) Katal
 C) Radian
 D) Diopter
29. What is the SI unit of current?
 A) Ohm

- B) Ampere
 C) Metre
 D) Volt

CHEMISTRY

1. Which two organic chemists are known for observing the peroxide effect in adding reagents to unsaturated compounds in 1933?
 A) Morris S Kharasch and Frank R Mayo
 B) C John Cadogan and Luis M Campos
 C) B Steven Bachrach and Roald Hoffmann
 D) Justus von Liebig and Friedrich Wöhler
2. In which musical note did Newland put the metals Co and Ni with halogens?
 A) Fa
 B) Do
 C) Re
 D) Mi
3. An organic reaction used to convert an aryl diazonium salt into an aryl halide using a copper(I) halide catalyst is called:
 A) Finkelstein reaction
 B) Gattermann reaction
 C) Sandmeyer reaction
 D) Balz-Schiemann reaction
4. Which of the following has the highest salinity?
 A) Great salt lake
 B) Lake Van
 C) Red sea
 D) Dead sea
5. What is the IUPAC name of tertiarybutyl alcohol?
 A) 2-Methylpropan-2-ol
 B) 1-propylpropan-3-ol
 C) 1-Methylpropan-3-ol
 D) 1-ethylpropan-3-ol
6. Which of the following decomposition reactions is NOT a redox reaction?
 A) Decomposition of dihydrogen monoxide
 B) Decomposition of sodium hydride
 C) Decomposition of potassium chlorate
 D) Decomposition of calcium carbonate
7. Palladium on barium sulphate (Pd/BaSO_4) is also known as:
 A) a Hillman reaction catalyst
 B) a Cannizzaro reaction catalyst
 C) the Rosenmund catalyst
 D) an aldol reaction catalyst
8. The decomposition of gaseous Ammonia on a hot platinum surface is a _____ order reaction at high pressure.
 A) two
 B) zero
 C) three
 D) one
9. The type of reaction that is typically found when a material that is required for the reaction to proceed, such as a surface or a catalyst, is saturated by the reactants is called a _____ order reaction.
 A) first
 B) second
 C) zero
 D) third
10. When haloalkanes and aryl and vinyl halides react with magnesium metal they yield which reagent?
 A) Hinsberg reagent
 B) Grignard reagent
 C) Tollens' reagent
 D) Fehling reagent
11. Which of the following is a correct order of basicity?
 A) $\text{LiOH} > \text{NaOH} > \text{KOH} > \text{CsOH}$
 B) $\text{LiOH} > \text{KOH} > \text{CsOH} > \text{NaOH}$
 C) $\text{KOH} > \text{CsOH} > \text{NaOH} > \text{LiOH}$
 D) $\text{CsOH} > \text{KOH} > \text{NaOH} > \text{LiOH}$
12. Who developed the theory of combustion as a chemical reaction with oxygen in the 18th century, that excluded phlogiston theory?
 A) Antoine Lavoisier
 B) Robert Boyle
 C) Friedrich Wöhler
 D) Johann Becher
13. What is the salinity of the Dead Sea (per litre of water)?
 A) 440 grams
 B) 240 grams
 C) 340 grams
 D) 390 grams
14. When you take Lead nitrate powder in a boiling tube and heat it, you will observe the emission

- of brown fumes that are of _____.
- A) Nitrous oxide
B) Nitric oxide
C) Nitrogen dioxide
D) Dinitrogen trioxide
15. As per Mendeleev's prediction, atomic mass of eka-aluminium was:
A) 100
B) 44
C) 72
D) 68
16. For a chemical reaction with rise in temperature by 10° , the rate constant becomes nearly _____.
- A) Double
B) Triple
C) one-fourth
D) half
17. Grignard reagent is represented as:
A) $\text{CH}_3\text{-Ca-F}$
B) $\text{CH}_3\text{-Be-F}$
C) $\text{CH}_3\text{-Mg-Cl}$
D) H-Mg-H
18. What was Antoine-Laurent Lavoisier's most important contribution to chemistry in 1789?
A) Law of Conservation of Mass
B) Law of Multiple Proportions
C) Law of Definite Proportions
D) Law of Conservation of Energy
19. Calculate the oxidation number of 'S' in $\text{H}_2\text{S}_2\text{O}_7$.
A) 3
B) 7
C) 6
D) 2
20. Which of the following is the most acidic?
A) HCOOH
B) $\text{C}_6\text{H}_5\text{COOH}$
C) $\text{C}_2\text{H}_5\text{COOH}$
D) CH_3COOH
21. The chemical formulae of glucose is $\text{C}_6\text{H}_{12}\text{O}_6$. The weight % of carbon in glucose is?
A) 40
B) 72
C) 53
D) 25
22. Which allotrope of carbon was discovered by Robert F Curl, Harold W Kroto and Richard E Smalley in 1985?
A) Graphene
B) Lonsdaleite
C) Carbyophene
D) Fullerene
23. To which group do the alkaline earth metals such as radium, barium and strontium belong?
A) Group 5A
B) Group 2A
C) Group 1A
D) Group 3A
24. According to Mendeleev's Periodic Table, which elements' properties matched up remarkably well with ekasilicon?
A) Gallium
B) Scandium
C) Titanium
D) Germanium
25. When electricity is passed through water, what kind of chemical reaction occurs?
A) Decomposition
B) Displacement
C) Double displacement
D) Combination
26. Which among the following is NOT a classification criterion of drugs?
A) Chemical structure
B) Molecular target
C) Behavioural condition
D) Pharmacological effect
27. Which of the following gases plays an important role in welding titanium, aluminium, stainless steel, and magnesium?
A) Fluorine
B) Neon
C) Argon
D) Chlorine
28. Which of the following is a straight-chain alkyl carboxylic acid with the chemical formula $\text{CH}_3\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$?
A) Methanoic acid
B) Propionic acid
C) Ethanoic acid
D) Butyric acid
29. In Newlands' Octaves, the properties of lithium and _____ were found to be the same.
A) Sodium
B) Aluminium
C) Magnesium
D) Beryllium
30. Which of the following is NOT a greenhouse gas?
A) Methane
B) Carbon dioxide
C) Nitrous oxide
D) Nitric oxide
31. Which polyatomic ionic compound is a white, crystalline powder used in fire extinguishers and to neutralise acids and bases?
A) Sodium Bisulphite
B) Sodium Thiosulphate
C) Sodium Chromate
D) Sodium Bicarbonate
32. Which of the following statements are true based on the $4\text{NH}_3(\text{g}) + 5\text{O}_2(\text{g}) \rightarrow 4\text{NO}(\text{g}) + 6\text{H}_2\text{O}(\text{g})$?
A) (a) and (d)
B) (a) and (b)
C) (c) and (d)
D) (b) and (c)
33. Which of the following statements is INCORRECT regarding water remaining colder in an earthen pot (matka)?
A) Water gets evaporated at the surface of the earthen pot.
B) The earthen pot is porous.
C) Environmental water vapour enters the pot through pores.
D) The water oozes out through the pores in an earthen pot.
34. A chemical reaction in which the rate of reaction is directly proportional to the first power of the concentration of the reacting substance is called:
A) Zero order reaction
B) Third order reaction
C) Second order reaction
D) First order reaction
35. How many carbon dioxide and water molecules will be there in the product side, if the following equation is made balanced?
 $\text{C}_2\text{H}_5\text{OH} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
A) 3 and 6, respectively
B) 1 and 1, respectively
C) 2 and 3, respectively
D) 3 and 2, respectively
36. Name the straight chain alkane having chemical formula $\text{C}_{12}\text{H}_{26}$, which is used as a research chemical and in making biodegradable detergents.
A) Nonane
B) Dodecane
C) Nonadecane
D) Icosane
37. Transition elements are the elements that are found in

Groups 3-12 of the modern periodic table, that constitute the ____.

- A) d-block
- B) s-block
- C) p-block
- D) f-block

38. Which of the following is a saturated hydrocarbon?

- A) C_3H_8
- B) C_2H_6
- C) C_6H_6
- D) C_4H_8

39. NDP = ____.

- A) GDP – Depreciation
- B) GDP + Depreciation
- C) GDP – Net factor income from abroad
- D) GDP + Net factor income from abroad

40. Which of the following is NOT a physical change?

- A) Heating of iron rod to red hot
- B) Curdling of milk
- C) Evaporation of diesel
- D) Sublimation of NH_4Cl

41. Which acid is used as a souring agent added to vinegar, pickled vegetables, and sauces, and as a raw material for seasoning?

- A) Citric acid
- B) Acetic acid
- C) Tartaric acid
- D) Formic acid

42. The cause of a redox reaction is the:

- A) transfer of electrons between two reactants
- B) transfer of electrons between two products
- C) transfer of neutrons between two reactants
- D) exchange of halogens between two reactants

43. Identify a monoatomic molecule.

- A) Carbon monoxide
- B) Oxygen
- C) Helium
- D) Chlorine

44. Which of the following pairs is INCORRECTLY matched?

- A) Lactose: Milk
- B) Starch: Egg yolk
- C) Fructose: Grapes
- D) Maltose: Wheat, cornmeal and barley

45. What is the gas evolved when zinc reacts with sulphuric acid?

- A) Hydrogen

- B) Oxygen
- C) Carbon dioxide
- D) Hydrogen sulphide

46. Match the terms in column A with their respective properties in column B.

Column A	Column B
i) Glucose	a) Intermediate substance in breakdown of glucose
ii) Yeast	b) Glucose is converted into pyruvic acid
iii) Glycolysis	c) Uses nutrients for fermentation process
iv) Pyruvic acid	d) Best organic substrate for respiration

- A) i-b, ii-a, iii-d, iv-c
- B) i-d, ii-c, iii-b, iv-a
- C) i-a, ii-b, iii-c, iv-d
- D) i-b, ii-d, iii-a, iv-c

47. Which of the following gases get released when dilute sulphuric acid (H_2SO_4) reacts with magnesium (Mg)?

- A) SO_3
- B) SO_2
- C) O_2
- D) H_2

48. What is the product formed when zinc and sulphuric acid react?

- A) Zinc sulphate
- B) Zinc hydroxide
- C) Zinc sulphide
- D) Zinc oxide

49. Which of the following elements is a metalloid?

- A) Iron
- B) Oxygen
- C) Sodium
- D) Silicon

50. Which gas is evolved when iron and water react?

- A) Hydrogen
- B) Oxygen
- C) Ammonia
- D) Methane

51. Which of the following is NOT a halogen gas?

- A) F
- B) He
- C) Cl
- D) Br

52. 'Au' is the symbol for which of the following elements?

- A) Gold
- B) Aluminium

- C) Silver
- D) Argon

53. Which number is called Avogadro's constant, named after the 19th-century scientist Amedeo Avogadro?

- A) 6.022×10^{23}
- B) 6.020×10^{23}
- C) 6.032×10^{23}
- D) 6.012×10^{23}

54. Which of the following chemical reactions takes place when quick lime reacts with water?

- A) $CaO(s) + H_2O(l) \rightarrow Ca + H_2(aq)$
- B) $C(s) + O_2(g) \rightarrow CO_2(g)$
- C) $CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(aq)$
- D) $CH_4(g) + 2O_2(g) \rightarrow CO_2(g) + 2H_2O(g)$

55. Identify the structural formula for magnesium hydroxide.

- A) MgOH
- B) MgO
- C) Mg_2H_2
- D) $Mg(OH)_2$

BIOLOGY

1. The growth form of a plant, comprising its size, shape, and orientation is known as:

- A) habit
- B) environment
- C) habitat
- D) growth pattern

2. Hubbardia heptaneuron, which has become endangered, is a species of which of the following?

- A) Grass
- B) Bamboo
- C) Tiger
- D) Crane

3. What kind of phyllotaxy was examined in the Guava plant?

- A) Superimposed
- B) Whorled
- C) Alternate
- D) Opposite

4. The headquarters of the second Green Revolution cell was in ____.

- A) Raipur
- B) Patna
- C) Kolkata
- D) Bhubaneswar

5. Which species is known as black-lipped pearl oyster found in the Indo-Pacific, within tropical coral

reefs?

- A) Aplysia dactylomela
- B) Dentalium neohexagonum
- C) Chaetopleura apiculata
- D) Pinctada margaritifera**

6. Match the points under Column A with those under Column B

Column A (Subphylum)	Column B (Animal)
i) Hexapoda	a) Daphnia
ii) Crustacea	b) Mosquito
iii) Myriapoda	c) Limulus
iv) Chelicerata	d) Julus

- A) i-b, ii-c, iii-a, iv-d
- B) i-a, ii-b, iii-c, iv-d
- C) i-d, ii-c, iii-b, iv-a
- D) i-b, ii-a, iii-d, iv-c**

7. The green revolution technology resulted in an increase in production of cereal production from 72.4 million tons in 1965-66 to _____ million tons in 1978-79.

- A) 150.8
- B) 165.9
- C) 131.9**
- D) 141.2

8. Which of the following is NOT a member of the Aves (birds) class?

- A) Psittacula
- B) Neophron
- C) Pteropus**
- D) Struthio

9. Which types of gametes are found in Spirogyra?

- A) Isogamous and flagellated
- B) Heterogamous and non-flagellated
- C) Heterogamous and flagellated
- D) Isogamous and non-flagellated**

10. Which of the following categories does Gonyaulax belong to?

- A) Euglenoids
- B) Chrysophytes
- C) Protozoans
- D) Dinoflagellates**

11. In the context of cell division, which chromosomal behaviour takes place at the leptotene stage?

- A) Chromosomes are un-synapsed
- B) Synapsis is complete
- C) Homologous chromosomes pair
- D) Chromosomes begin to condense**

12. Which marine carotenoid is abundant in brown seaweed, macroalgae, and diatoms?

- A) Fucoxanthin**

- B) Astaxanthin
- C) Neoxanthin
- D) β -cryptoxanthin

13. Which law states that endothermic animals from cold climates have smaller extremities or appendages than closely related species from warm climates?

- A) Harper's rule
- B) Reich's rule
- C) Allen's rule**
- D) Moller's rule

14. Which of the following is the best definition of ecological efficiency?

- A) The amount of energy utilised at different trophic levels in a food chain
- B) The amount of energy stored at different trophic levels in a food chain
- C) The ratio between the mass and the energy flow at different trophic levels in a food chain
- D) The ratio between energy flows at different points in a food chain**

15. What do we mean by Allen's rule?

- A) Mammals from colder climates generally have shorter ears and limbs to minimise heat loss.**
- B) Desert lizards lack the physiological ability that mammals have to deal with the high temperatures of their habitat.
- C) Some plants have no leaves – they are reduced to spines – and the photosynthetic function is taken over by the flattened stems.
- D) The body compensates low oxygen availability by increasing red blood cell production, decreasing the binding affinity of haemoglobin, and by increasing the breathing rate.

16. Which essential amino acid enhances calcium absorption and also plays an important role in the formation of collagen?

- A) Arginine
- B) Tyrosine
- C) Lysine**
- D) Histidine

17. Which of the following is related to neem?

- A) Tendril
- B) Palmately**
- C) Pinnately
- D) Spines

18. What is the reason for the similar size of the vascular bundle in monocot leaves?

- A) Cubical venation
- B) Radial venation
- C) Rectangular venation
- D) Parallel venation**

19. Which of the following options indicates the size of PPLO (Pleuro Pneumonia Like Organisms)?

- A) About 30 μ m
- B) About 20 μ m
- C) About 0.1 μ m**
- D) About 10 μ m

20. What is the name of the inflammatory condition that causes cracks, crusting, and scaling at the corners of the mouth due to vitamin B2 deficiency?

- A) Cheilosis**
- B) Psoriasis
- C) Urticaria
- D) Atopic dermatitis

21. Which of the following is responsible for the red colour of beetroot?

- A) Curcumin
- B) Betanin**
- C) Beta carotene
- D) Lycopene

22. Which of the following is an inactivated (killed) polio vaccine developed in 1952?

- A) Salk vaccine**
- B) Imvanex vaccine
- C) HDCV vaccine
- D) TAB vaccine

23. Find out why white silver chloride turns grey in sunlight.

- A) Due to rusting of silver in the presence of oxygen
- B) Due to redox reaction
- C) Due to the decomposition of silver chloride into silver and chlorine by light**
- D) Due to the displacement of silver chloride to silver oxide

24. Which of the following does NOT belong to the category of Porifera?

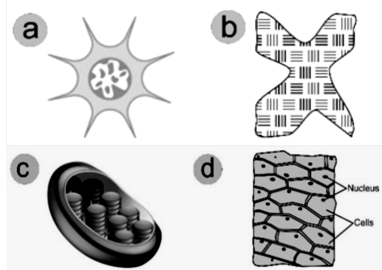
- A) Hydra**
- B) Sycon
- C) Spongilla
- D) Euplectella

25. Which of the following classes includes the family of turtles?

- A) Chondrichthyes
- B) Reptilia**

- C) Amphibia
D) Aves

26. Which of the following illustrations is related to chloroplasts?



- A) d B) b C) c D) a

27. Who published Systema Naturae in 1735 classifying the three kingdoms of nature and outlining the sexual system for the classification of plants?

- A) Carl Woese
B) Robert Whittaker
C) Ernst Haeckel
D) Carolus Linnaeus

28. Which cell organelle is defined as the small round organelle that undergoes oxidation reaction to produce hydrogen peroxide?

- A) Centrosome
B) Vacuole
C) Nucleus
D) Peroxisomes

29. The organisms that do not have a defined nucleus or organelles are classified into _____ Kingdom.

- A) Fungi
B) Protista
C) Monera
D) Plantae

30. Name a common electrolyte disorder that occurs when the amount of sodium in your blood becomes abnormally low.

- A) Hyperkalemia
B) Hypokalemia
C) Hyponatremia
D) Hypernatremia

31. What is the other name of tetanus caused by toxin-producing bacteria called Clostridium tetani?

- A) Lockjaw
B) Snap jaw
C) Cleft jaw
D) Broken jaw

32. By which of the following methods do red algae reproduce?

- A) Grafting

- B) Cutting
C) Micropropagation
D) Fragmentation

33. Which of the following statements best defines monoecious?

- A) A flower with both androecium and gynoecium
B) A flower with ditheous
C) A flower with gynoecium only
D) A flower with androecium only

34. Which of the following characteristics is NOT of Aves?

- A) They have four-chambered heart.
B) They give birth to live young ones with some exceptions those lay eggs.
C) These are warm-blooded animals.
D) They breathe through the lungs.

35. What are the five Fs of indirect transmission?

- A) Flies, fingers, fomites, food, and fluid
B) Fruit, fingers, flu, food, and fluid
C) Flies, fingers, friends, food, and fruit
D) Flies, fingers, fomites, food, and fruit

36. Which is a serious contagious bacterial infection that usually affects the mucous membranes of the nose and throat?

- A) Meningococcal
B) Diphtheria
C) Shigellosis
D) Chlamydia

37. How many chambers are there in the heart of fishes?

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

38. Which of the following statements is INCORRECT?

- A) Fats and oils get reduced over time and smell bad.
B) Fats and oils are oxidised, they become rancid.
C) Antioxidants are added to foods containing fats and oil to prevent oxidation.
D) Chips manufacturers usually flush bags of chips with Nitrogen to prevent the chips from getting rancid.

39. Identify a spiral-shaped bacteria.

- A) Bacillus
B) Spirillum

- C) Coccus
D) Vibrio

40. Which of the following is an example of Phylum Arthropoda?

- A) Nereis
B) Butterfly
C) Hirudinaria
D) Pila

41. Which of the following is a non-perishable food?

- A) Pulses
B) Meat
C) Curds
D) Milk

42. Which of the following is an example of prokaryotic cells?

- A) Plasmodium
B) Leishmania
C) Yeast
D) Bacteria

43. Match the points under Column A with those under Column B

Column A	Column B
i) Annelida	a) Tapeworm
ii) Arthropoda	b) Sea star
iii) Echinodermata	c) Ant
iv) Platyhelminthes	d) Earthworm

A) i-d, ii-c, iii-b, iv-a

B) i-b, ii-a, iii-c, iv-d

C) i-a, ii-c, iii-b, iv-d

D) i-a, ii-b, iii-c, iv-d

44. Which of the following options is associated with the class of cold-blooded animals?

- A) Chameleon
B) Pavo
C) Macropus
D) Psittacula

45. Which of the following researchers observed densely stained reticular structures surrounding the nucleus (Hint: Figure)?



- A) William Harvey
B) Francis Crick
C) Camillo Golgi
D) Louis Pasteur

46. Which is the most important protein component in milk, both quantitatively and nutritionally,

that accounts for about 80% of the total protein in bovine milk?

- A) Actin
- B) Albumin
- C) Pepsin
- D) Casein

47. Which of the following is a characteristic of both mammals and birds?

- A) Viviparity
- B) Pigmented skin
- C) Pneumatic bones
- D) Warm blooded

48. Which of the following is NOT a component of a flower?

- A) Androecium
- B) Corolla
- C) Spines
- D) Calyx

49. Which of the following are the two basic categories of an ecosystem?

- A) Forest and Aquatic
- B) Terrestrial and Aquatic
- C) Lakes and Ponds
- D) Forest and Rivers

50. Match the points under Column A with those under Column B

Column A (Disease)	Column B (Organism Responsible)
i) Malaria	a) Vibro
ii) Diarrhoea	b) Salmonella
iii) Typhoid	c) Rotavirus
iv) Cholera	d) Plasmodium

- A) i-b, ii-a, iii-c, iv-d
- B) i-d, ii-c, iii-b, iv-a
- C) i-a, ii-c, iii-b, iv-d
- D) i-a, ii-b, iii-c, iv-d

51. Which set of diseases are caused by bacteria?

- A) Influenza, Dengue, Cholera
- B) Typhoid, Cholera, Tuberculosis
- C) Dengue, Malaria, Cholera
- D) Malaria, Common cold, Influenza

52. Microbes like Rhizobium, Nitrosomonas and Nitrobacter are used for:

- A) nitrogen cycling
- B) carbon cycling
- C) water cycling
- D) sulphur cycling

53. Filtration of waste products in humans happens in the kidneys. There is a large number of filtration units present inside the kidneys to help them in doing this job. These filtration units are

called:

- A) Bowman's capsules
- B) nephrons
- C) capillaries
- D) alveoli

54. Which organisms are classified as Aves?

- A) Fishes
- B) Frogs
- C) Snakes
- D) Birds

55. Digestion of food is an important function of the animal body. In animals like lions, cows, humans, etc., the process involves use of various organs starting from the mouth and ending with the anus. The longest part of this canal is known as the _____.

- A) stomach
- B) large intestine
- C) oesophagus
- D) small intestine

56. Which condition, also known as icterus, causes a yellowing of your skin and the whites of your eyes?

- A) Ichthyosis
- B) Jaundice
- C) Eczema
- D) Pemphigus

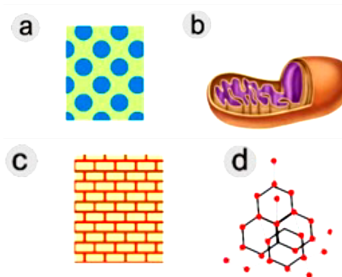
57. Which of the following can be represented as a functional unit of nature?

- A) Vehicles
- B) Ecosystem
- C) Humans
- D) Plants

58. Which branch of ecology deals with the characteristics of ancient environment and their relationship with ancient plants and animals?

- A) Demecology
- B) Ichthyology
- C) Paleoecology
- D) Mycology

59. Which of the following illustrations shows the mitochondrion's structural details?



A) d B) b C) c D) a

60. Which of the following is another name of vitamin C?

- A) Pyridoxine
- B) Pyridoxal
- C) Pyridoxamine
- D) Ascorbic acid

61. Which of the following pairs is INCORRECTLY matched?

- A) Nucleus: Lipid metabolism
- B) Lysosomes: Suicidal bags
- C) Mitochondria: Power house of the cell
- D) Ribosomes: Protein factory

62. Which of the following is a man-made ecosystem?

- A) Aquarium
- B) Desert
- C) Forest
- D) Grassland

63. Which of the following plants is used to cure cold and cough?

- A) Tulsi
- B) Babool
- C) Jamun
- D) Arjun

64. Which of the following pairs is INCORRECT regarding the grade of organisation and its example?

- A) Cellular grade organisation - Sycon
- B) Protoplasmic grade organisation - Paramecium
- C) Cell-tissue grade organisation - Jellyfish
- D) Tissue-organ grade organisation - Euplectella