

## Science Reviewer - Set A

1. A mixture is a combination of two or more substances. When it appears uniform all throughout, it is called a \_\_\_\_\_.
  - a. homogeneous mixture
  - b. heterogeneous mixture
  - c. homozygous mixture
  - d. heterozygous mixture
2. Which of these factors affect solubility?
  - a. the size of the solute
  - b. the amount of the solvent
  - c. the temperature of the solvent
  - d. all of the above
3. Which of these mixtures is homogeneous?
  - a. colloid
  - b. solution
  - c. suspension
  - d. all of the above
4. The \_\_\_\_\_ is used to determine whether a mixture is a true solution or a colloid.
  - a. Tydings-McDuffie law
  - b. Tyndall effect
  - c. Tycho Brahe test
  - d. Tympanic membrane
5. Most materials are mixtures. They may be mixtures of elements or mixtures of compounds. Which of the following is a mixture?
  - a. water
  - b. sea water
  - c. carbon dioxide
  - d. salt

6. You need to separate two liquids that have different densities. Which separation technique can you use?
- filtration
  - decantation
  - using a magnet
  - sieving
7. Which of these statements is incorrect?
- All living things need energy to carry out life processes.
  - All living things are composed of one or more cells.
  - All living things reproduce.
  - All living things maintain a stable external environment.
8. Tardigrades can survive temperatures ranging from  $-272^{\circ}\text{C}$  to  $151^{\circ}\text{C}$ , pressures of 6,000 atm, extreme dehydration, and exposure to X-rays and gamma rays. They belong to which domain?
- archaea
  - bacteria
  - eukarya
9. Molecules built around the element carbon are called \_\_\_\_\_.
- organic compounds
  - inorganic compounds
  - volatile substances
  - minerals
10. The cholesterol that we use to make many things in the body and the double layer that makes up the outer membranes of our cells are both examples of \_\_\_\_\_.
- carbohydrates
  - lipids
  - proteins
  - nucleic acids
11. A \_\_\_\_\_ is the smallest structural and functional unit of an organism.
- cell
  - tissue
  - organ
  - organ system

12. Which statement is incorrect?
- All prokaryotes are unicellular.
  - Bacteria and archaea are prokaryotes.
  - All eukaryotes are multicellular.
  - All multicellular organisms are eukaryotes.
13. Which organelle is known as the powerhouse of the cell because it is where ATP – the form of energy used in cells – is produced?
- Nucleus
  - Mitochondria
  - Ribosomes
  - Rough endoplasmic reticulum
14. Which organelle receives proteins from the rough ER, packages them, and sends them off to the appropriate place in the cell or cell membrane?
- Smooth endoplasmic reticulum
  - Golgi apparatus
  - Lysosome
  - Nucleolus
15. \_\_\_\_\_ are the cells' storage centers.
- Vesicles
  - Vacuoles
  - Centrioles
  - Chloroplasts
16. These are the ways in which plant cells differ from animal cells EXCEPT \_\_\_\_\_.
- Only plant cells have cell walls.
  - Only plant cells have chloroplasts.
  - Only plant cells have vacuoles.
  - No exception
17. Among the five types of nutrients, our main source of energy is \_\_\_\_\_.
- carbohydrates
  - proteins
  - vitamins
  - minerals

18. Which simple carbohydrate is converted by cells into ATP through the process of cellular respiration?
- rice
  - starch
  - glucose
  - wheat
19. Proteins are made up of smaller molecules called\_\_\_\_\_.
- fibrins
  - amino acids
  - proteases
  - carnitines
20. There are two main types of fats. Which type of fat is more often found in meat, full-fat dairy products, eggs, and tropical oils like coconut and palm oil? This type of fat increases cholesterol levels in the blood, which can lead to heart disease.
- saturated fat
  - unsaturated fat
  - trans fat
  - none of these
21. Which vitamin is incorrectly paired with its role in the body?
- Vitamin A - for good vision
  - Vitamin B1 - for healthy nerves
  - Vitamin C - for blood clotting
  - Vitamin D - for healthy bones and teeth
22. Final digestion and food absorption take place in the \_\_\_\_\_.
- stomach
  - small intestine
  - large intestine
  - rectum
23. What type of digestion is the process of physically breaking down the food we eat into smaller and smaller pieces? It is also known as physical digestion.
- chemical digestion
  - mechanical digestion
  - cellular digestion
  - indigestion

24. The substance secreted by the liver that helps in the digestion of fats is \_\_\_\_\_.
- ptyalin
  - bile
  - pancreatic juice
  - intestinal juice
25. What type of digestion happens in the stomach?
- mechanical digestion
  - chemical digestion
  - both
  - neither
26. Digestion begins in the \_\_\_\_\_.
- small intestine
  - esophagus
  - mouth
  - stomach
27. Which organ(s) stores bile and releases it when needed?
- gall bladder
  - urinary bladder
  - pancreas
  - salivary glands
28. An estimated 100 trillion bacteria live in our gut! We help the bacteria – by giving them a safe environment to live – and they help us. Which of these do the “good bacteria” in our gut do for us?
- Produce vitamin B12 and vitamin K
  - Control the growth of harmful bacteria
  - Produce enzymes that digest carbohydrates in plant cell walls, making us able to digest plant foods like spinach
  - All of these
29. Which organ system distributes the nutrients obtained by the digestive system to your whole body?
- circulatory system
  - distributive system
  - immune system
  - integumentary system

30. Which is an incorrect pairing between the body waste and the organ responsible for excreting it?
- a. feces - large intestine
  - b. carbon dioxide - lungs
  - c. water and salts - skin and kidneys
  - d. none - all are correct
31. The job of the \_\_\_\_\_ is to protect the body.
- a. immune system
  - b. endocrine system
  - c. skeletal system
  - d. muscular system
32. Mucous membranes are covered by a moist, sticky substance called \_\_\_\_\_. Because it is sticky, most pathogens and foreign particles get stuck in it and do not get the opportunity to do harm to the body.
- a. mucus
  - b. sap
  - c. cytoplasm
  - d. lymph
33. True or False – Bacteria can help our bodies fight against disease-causing organisms.
- a. true
  - b. false
34. The immune system has two subsystems: (1) the innate or non-specific immune system, and (2) the adaptive or specific immune system. Which of these provides a general defense against harmful germs and substances?
- a. innate immune system
  - b. adaptive immune system
  - c. both
  - d. neither

35. \_\_\_\_\_ is the process of deliberately exposing a person to a pathogen so that they can develop immunity. Only part of the pathogen is injected, or a weak or dead pathogen is used. This imitates an infection and triggers an immune response where the body prepares "memory" cells for use at a later time, so that the body can recognize and fight off the antigen if it is ever encountered again.
- Pathogenization
  - Indoctrination
  - Impersonation
  - Vaccination
36. The skeletal system includes the following, except \_\_\_\_\_.
- bones
  - cartilage
  - ligaments
  - none - all are correct
37. Which of these bones belong to the appendicular skeleton?
- breastbone
  - kneecap
  - skull
  - tailbone
38. The light, porous bone tissue that is typically found at the ends of long bones is the \_\_\_\_\_, also called cancellous bone. It is usually surrounded by a shell of compact bone, for greater strength and rigidity, but it provides balance to compact bone (which is dense and heavy) by making bones lighter so that muscles can move them more easily.
- bone marrow
  - compact bone
  - spongy bone
  - ligaments
39. The \_\_\_\_\_ is the smallest bone in your body.
- coccyx
  - hyoid
  - stapes
  - patella

40. Injuries to ligaments are called \_\_\_\_\_.
- sprains
  - strains
  - fractures
  - dislocations
41. The joints between the plate-like bones of our skull are \_\_\_\_\_.
- fixed joints
  - partly movable joints
  - movable joints
  - synovial joints
42. Ball-and-socket, hinge, pivot, and gliding joints are all types of \_\_\_\_\_.
- fixed joints
  - partly movable joints
  - movable joints
  - fibrous joints
43. The hip joint is a \_\_\_\_\_.
- ball-and-socket joint
  - hinge joint
  - pivot joint
  - gliding joint
44. Muscles work closely with our bones and connective tissues in order to make our body move. Nearly all the movement in our body is the result of muscle contraction. When muscles contract, they \_\_\_\_\_.
- lengthen
  - shorten
  - relax
  - narrow
45. The type of muscle generally responsible for the contraction of hollow organs such as the uterus and the urinary bladder is \_\_\_\_\_.
- skeletal muscle
  - smooth muscle
  - cardiac muscle
  - none of these



46. To bend your elbows, your biceps muscle contracts and your \_\_\_\_\_ muscle relaxes.
- uniceps
  - triceps
  - quadriceps
  - gastrocnemius
47. These types of muscles are striated, except \_\_\_\_\_.
- skeletal muscle
  - smooth muscle
  - cardiac muscle
  - none - all are striated
48. This is what happens when something hits a part of your body and damages the muscles and connective tissue underneath but doesn't break the skin. It is commonly known as a bruise.
- fracture
  - splinter
  - contusion
  - strain
49. The following are part of the integumentary system except \_\_\_\_\_:
- bones
  - hair
  - nails
  - skin
50. The cells that produce melanin – the pigment that gives our skin and hair their color – are found in which layer of the skin?
- dermis
  - epidermis
  - hypodermis
  - subcutis
51. Which of these structures are found in the dermis?
- hair follicles
  - oil glands
  - sweat glands
  - all of these

52. The hair helps with all of the following except \_\_\_\_\_.
- a. sensation
  - b. keeping the body warm
  - c. protection from dust, sunlight, etc.
  - d. none – all are correct
53. Leukocytes are also known as \_\_\_\_\_.
- a. red blood cells
  - b. white blood cells
  - c. platelets
  - d. plasma
54. The following are parts of the brain except \_\_\_\_\_.
- a. brain cord
  - b. brain stem
  - c. cerebellum
  - d. cerebrum
55. Which system sends electrical messages throughout the body and controls all other body systems?
- a. nervous system
  - b. endocrine system
  - c. digestive system
  - d. circulatory system
56. The \_\_\_\_\_ passes nerve impulses on to other cells.
- a. dendrite
  - b. axon
  - c. myelin sheath
  - d. node of Ranvier
57. When a nerve impulse reaches the end of an axon, the axon releases chemicals that travel across the synapse between the axon and the dendrite of the next neuron. When these chemicals bind to the membrane of the dendrite, this “passes the message” and prompts a nerve impulse to then travel through the receiving neuron. These chemicals are called \_\_\_\_\_.
- a. neurotransmitters
  - b. hormones
  - c. enzymes
  - d. none of the above

58. The \_\_\_\_\_ is responsible for many vital functions of life, such as breathing, consciousness, blood pressure, heart rate, and sleep.
- cerebrum
  - cerebellum
  - brainstem
  - spinal cord
59. The main function of the \_\_\_\_\_ is to carry nerve signals from your brain to your body and vice versa.
- spinal cord
  - interneurons
  - hippocampus
  - basal ganglia
60. The part of the autonomic nervous system that controls our internal organs and glands during emergencies and is responsible for our “fight or flight” response is the \_\_\_\_\_.
- sensory nervous system
  - sympathetic nervous system
  - parasympathetic nervous system
  - stress nervous system
61. The \_\_\_\_\_ are the tubes through which urine passes from the kidneys to the urinary bladder.
- glomeruli
  - ureters
  - urethrae
  - Fallopian tubes
62. What is a nitrogen-containing molecule that is made when foods that contain protein – such as meat and certain vegetables – are broken down in the body?
- urea
  - NaCl
  - nitrous oxide
  - sodium nitrate

63. The urinary system interacts with the body's other organ systems in the production and excretion of urine. The circulatory system transports the blood to and from the kidneys. Urination involves the contraction of muscles. You can tell when your urinary bladder is getting full because the nerves in the bladder send alerts to your brain. The endocrine system also interacts with the urinary system through the antidiuretic hormone (ADH). Which of these statements about ADH is incorrect?
- ADH is a hormone made by the hypothalamus and its release is controlled by the pituitary gland. Both the hypothalamus and the pituitary gland are part of the endocrine system.
  - If you have too little water in your body, ADH is released, and it instructs your kidneys to reabsorb more water (so that you don't get even more dehydrated).
  - When you have a lot of water in your body, there will be less ADH released, less water will be reabsorbed into the blood, and your urine will look darker.
  - None - all are correct.
64. Sponges belong to which group of invertebrates?
- annelids
  - cnidarians
  - echinoderms
  - poriferans
65. What process takes place when a sperm cell fuses with an egg cell?
- reproduction
  - fertilization
  - hibernation
  - interaction
66. This occurs when pollen from one flower is deposited on the stigma of the same flower or another flower of the same plant.
- cross-pollination
  - self-pollination
  - asexual pollination
  - asexual reproduction

67. These specialized plant structures are upright or vertical shoots that arise from the base or roots of the parent plant.
- rhizomes
  - runners
  - suckers
  - tubers
68. In this method of propagation, a stem is bent and covered with soil to induce root formation, then separated from the parent plant.
- budding
  - grafting
  - layering
  - marcotting
69. Mudskippers are most likely found in which habitat?
- coral reefs
  - mangrove swamps
  - tropical rainforests
  - tundra
70. Area that is covered by water during high tide but is exposed or above the water level during low tide
- canopy
  - estuary
  - intertidal zone
  - tundra
71. Which of these has a positive charge?
- proton
  - electron
  - neutron
  - none of the above
72. A positively charged particle \_\_\_\_\_.
- has more electrons than protons
  - has more protons than electrons
  - has more neutrons than electrons
  - has an equal number of protons and electrons

73. Will it be easier for a person to push a table on a carpeted floor than on a waxed floor?
- Yes, because the carpeted floor is smoother, so the friction is lesser.
  - Yes, because the carpeted floor is smoother, so the friction is greater.
  - No, because the carpeted floor is rougher, so the friction is lesser.
  - No, because the carpeted floor is rougher, so the friction is greater.
74. True or False - Friction can be helpful.
- true
  - false
75. The type of energy that is stored in the bonds between the atoms that make up compounds is \_\_\_\_\_.
- mechanical energy
  - chemical energy
  - electrical energy
  - nuclear energy
76. What is almost always produced when there is energy transformation?
- heat
  - light
  - electricity
  - chemical energy
77. Chances are, you bring one or more simple machines to school every day. When you open and close the lid of your water bottle, what kind of simple machine are you using?
- inclined plane
  - screw
  - wedge
  - wheel and axle
78. When boiling water is poured into a cold milk bottle, the bottle will often break because \_\_\_\_\_.
- glass is a good conductor of heat
  - milk bottles are made of extremely thin glass
  - the boiling water dissolves the inner part of the glass
  - the inside of the bottle expands faster than the outside

79. A long steel suspension bridge sags several centimeters in summer because \_\_\_\_\_.
- the heat causes the steel to expand
  - the bridge was not properly constructed
  - the steel becomes softer due to the heat
  - the increased traffic in summer causes increased weight on the bridge
80. Electromagnetic waves can transfer energy through matter or across empty space.
- true
  - false
81. Among these electromagnetic waves, which has the least amount of energy?
- microwaves
  - light
  - X-rays
  - gamma rays
82. Sunlight contains \_\_\_\_\_.
- only visible light
  - infrared light and visible light
  - infrared light, visible light, and ultraviolet light
  - the entire electromagnetic spectrum
83. When light cannot pass through and bounces back from the surface of an object, this is called \_\_\_\_\_.
- reflection
  - refraction
  - absorption
  - transmission
84. Matter that transmits light but scatters the light as it passes through is \_\_\_\_\_.
- transparent
  - translucent
  - opaque
85. The beautiful colors of the rainbow \_\_\_\_\_.
- are produced when sunlight is refracted by raindrops
  - are produced when sunlight is reflected by raindrops
  - are produced by atmospheric gases
  - are produced when clouds reflect sunlight

86. \_\_\_\_\_ is the bending of light as it passes through different materials.
- Absorption
  - Infraction
  - Reflection
  - Refraction
87. The greater the mass of an object, the greater is the force needed to \_\_\_\_\_ the object.
- move
  - push
  - stop
  - all of the above
88. What is the direction of flow of heat transfer?
- from hot to cold
  - from cold to hot
  - from top to bottom
  - sideways
89. This method of heat transfer is the reason why we have wind movements and local breezes.
- conduction
  - convection
  - radiation
  - insulation
90. Materials through which heat passes slowly or not at all are called \_\_\_\_\_.
- conductors
  - insulators
  - radiators
  - indicators
91. A circuit where the path is broken, preventing the flow of electric current
- open circuit
  - closed circuit
  - parallel circuit
  - series circuit



92. This electrical safety device contains a thin metal wire or strip that melts when exposed to excessive current. This melting breaks the circuit, stopping the flow of electricity.
- circuit breaker
  - defibrillator
  - fuse
  - insulation
93. The \_\_\_\_\_ is the point of origin of an earthquake underground.
- breaking point
  - focus
  - epicenter
  - fault
94. An earthquake that is due to sudden movement of rocks, such as when two tectonic plates collide against each other
- tectonic earthquake
  - volcanic earthquake
  - endemic earthquake
  - man-made earthquake
95. Which layers of the Earth make up the lithosphere?
- mantle and outer core
  - mantle and inner core
  - crust and upper mantle
  - outer core and inner core
96. This is also known as the northeast monsoon and brings cool, dry air into the country.
- Amihan
  - Habagat
  - Sirocco
  - Delubyo
97. Which brings cool, dry air into the country?
- hanging Amihan
  - hanging Habagat
  - northwest monsoon
  - southeast monsoon

98. Which of these is the pathway of the Earth around the sun?
- axis
  - orbit
  - ring
  - space
99. Which of the following refers to the spinning movement of the Earth on its axis?
- tilting
  - orbiting
  - rotation
  - revolution
100. Which of the following statements about the revolution of the Earth is correct?
- As the Earth spins on its axis, it causes climate change.
  - As the Earth revolves around the sun, it causes day and night.
  - As the Earth revolves around the sun, it also rotates on its axis.
  - As the sun revolves around the Earth, it causes seasonal change.
101. How are Earth and Venus similar to each other?
- Venus and Earth are Jovian planets.
  - Venus and Earth have almost the same size.
  - Venus and Earth have almost the same temperature.
  - Venus and Earth have the same distance from the Sun.
102. Which planet is the largest?
- Mars
  - Earth
  - Jupiter
  - Uranus
103. Which is the seventh planet from the Sun?
- Uranus
  - Mars
  - Jupiter
  - Venus

104. In a total solar eclipse, \_\_\_\_\_.
- the moon passes between the sun and the earth, blocking the sun
  - the sun is between the moon and the earth, blocking the moon
  - the earth is between the sun and the moon, blocking the sun
  - the sun is between the earth and the moon, blocking the earth
105. Term used to describe the moon when its lighted part is becoming smaller
- crescent
  - gibbous
  - waning
  - waxing
106. What phase will the moon be if the earth is between it and the sun?
- full moon
  - new moon
  - first quarter
  - last quarter
107. The stars with the highest temperature appear \_\_\_\_\_.
- blue
  - yellow
  - orange
  - red
108. \_\_\_\_\_ is the process by which plants release water from their leaves.
- Evaporation
  - Condensation
  - Precipitation
  - Transpiration
109. Which of these temperatures is the coldest?
- 10°C
  - 20°C
  - 37°C
  - 45°C

110. Low-lying uniform grayish clouds that often cover the entire sky
- cirrus
  - cumulus
  - nimbus
  - stratus
111. Which of these weather instruments measures temperature?
- anemometer
  - barometer
  - hygrometer
  - thermometer
112. Which of these weather instruments measures atmospheric pressure?
- anemometer
  - barometer
  - hygrometer
  - wind vane
113. \_\_\_\_\_ is a mixture of sand and clay.
- Clay
  - Loam
  - Humus
  - Sand
114. This layer of soil is rich in minerals. It contains less humus but can hold more water than the layer above it.
- topsoil
  - subsoil
  - parent rock
  - bedrock
115. A type of weathering that involves a change in the composition of the rock
- physical weathering
  - chemical weathering
  - abrasion
  - thermal expansion

## ANSWER KEY

1. a	26. c	51. d	76. a	101. b
2. d	27. a	52. d	77. b	102. c
3. b	28. d	53. b	78. d	103. a
4. b	29. a	54. a	79. a	104. a
5. b	30. d	55. a	80. a	105. c
6. b	31. a	56. b	81. a	106. a
7. d	32. a	57. a	82. d	107. a
8. c	33. a	58. c	83. a	108. d
9. a	34. a	59. a	84. b	109. a
10. b	35. d	60. b	85. a	110. d
11. a	36. d	61. b	86. d	111. d
12. c	37. b	62. a	87. d	112. b
13. b	38. c	63. c	88. a	113. b
14. b	39. c	64. d	89. b	114. b
15. b	40. a	65. b	90. b	115. b
16. c	41. a	66. b	91. a	
17. a	42. c	67. c	92. c	
18. c	43. a	68. c	93. b	
19. b	44. b	69. b	94. a	
20. a	45. b	70. c	95. c	
21. c	46. b	71. a	96. a	
22. b	47. b	72. b	97. a	
23. b	48. c	73. d	98. b	
24. b	49. a	74. a	99. c	
25. c	50. b	75. b	100. c	