Question **1**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

4. Prokaryotic cells are characterized by having



a.

No nucleus



b.

All of the above



c.

Cytoplasm bound by the plasma membrane



d.

DNA in an unbound region called the nucleoid



e.

No membrane-bound organelles

Feedback

The correct answer is: All of the above

Question **2**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

35. Which of the following best demonstrates the unity among all organisms?



a.

descent with modification



b.

the structure and function of DNA



c.

natural selection



d.

matching DNA nucleotide sequences

Feedback

The correct answer is: the structure and function of DNA

Question **3**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

33. Which type of bond must be broken for water to vaporize?



a.

Hydrogen bonds



b.

Both polar covalent bonds and hydrogen bonds



c.

Polar covalent bonds



d.

Ionic bonds

Feedback

The correct answer is: Hydrogen bonds

Question **4**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

32. Protists and bacteria are grouped into different domains because



a.

protists are photosynthetic.



b.

bacteria are not made of cells.



c.

protists eat bacteria.



d.

protists have a membrane-bounded nucleus, which bacterial cells lack.



e.

bacteria decompose protists.

Feedback

The correct answer is: protists have a membrane-bounded nucleus, which bacterial cells lack.

Question **5**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

5. The factor that determines where a particular cell component ends up when using the fractionation technique by centrifugation is



a.

the density of the component.



b.

the surface area of the component.



c.

the presence or absence of DNA in the component.



d.

the presence or absence of lipids in the component.

Feedback

The correct answer is: the density of the component.

Question **6**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

28. Lysosomal enzymes work best in



a.

Hypertonic environment



b.

Neutral environment



c.

Hypotonic environment



d.

Acidic environment



e.

Basic environment

Feedback

The correct answer is: Acidic environment

Question **7**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

40. Which of the following is not a polymer?



a.

Chitin



b.

Cellulose



c.

Starch



d.

Glucose

Feedback

The correct answer is: Glucose

Question **8**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

36. Which plant cell organelle contains its own DNA and ribosomes?



a.

Golgi apparatus



b.

Vacuole



c.

Mitochondrion



d.

Glyoxysome

Feedback

The correct answer is: Mitochondrion

Question **9**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

30. Why does ice float in liquid water?



a.

The high surface tension of liquid water keeps the ice on top



b.

The crystalline lattice of ice causes it to be denser than liquid water



c.

Stable hydrogen bonds keep water molecules of ice farther apart than water molecules of liquid water



d.

The ionic bonds between the molecules in ice prevent the ice from sinking

Feedback

The correct answer is: Stable hydrogen bonds keep water molecules of ice farther apart than water molecules of liquid water

Question **10**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

25. The element present in all organic molecules is\_\_\_\_\_.



a.

Oxygen



b.

Carbon



c.

Hydrogen



d.

Nitrogen

Feedback

The correct answer is: Carbon

Question **11**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

1. When using a microscope to visualize cells, the quality of an image depends on:



a.

Resolution



b.

Magnification



c.

All choices are correct



d.

Contrast

Feedback

The correct answer is: All choices are correct

Question **12**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

37. Hydrophobic substance such as vegetable oil are\_\_\_\_\_.



a.

Polar substances that repel water molecules



b.

Nonpolar substance that repel water molecules



c.

Nonpolar substance that have attraction for water molecules



d.

Polar substances that have an affinity for water

Feedback

The correct answer is: Nonpolar substance that repel water molecules

Question **13**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

7. The shape of the nucleus is maintained by:



a.

The DNA



b.

The chromatin



c.

The microtubules cytoskeleton



d.

The nuclear lamina, which is composed of protein



e.

The nuclear pores

Feedback

The correct answer is: The nuclear lamina, which is composed of protein

Question **14**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

19. Gap junctions provide



a.

Cytoplasmic channels between adjacent animal cells.



b.

Physical strength for both animal and plant cells



c.

Adhesion between the ECM and the cell



d.

Channels that perforate plant cell walls

Feedback

The correct answer is: Cytoplasmic channels between adjacent animal cells.

Question **15**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

47. Which of the following types of cells utilize deoxyribonucleic acid (DNA) as their genetic material but do not have their DNA encased within a nuclear envelope?



a.

Plant



b.

Archaea



c.

Animal



d.

fungi

Feedback

The correct answer is: Archaea

Question **16**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

27. Which of the following statements about the 5' end of a polynucleotide strand of DNA is correct?



a.

The 5' end has a phosphate group attached to the number 5 carbon of ribose.



b.

The 5' end has phosphate attached to the number 5 carbon of the nitrogenous base.



c.

The 5' end has a carboxyl group attached to the number 5 carbon of ribose.



d.

The 5' end has a hydroxyl group attached to the number 5 carbon of ribose.

Feedback

The correct answer is: The 5' end has phosphate attached to the number 5 carbon of the nitrogenous base.

Question **17**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

43. The QUANTITY of heat a liquid must absorb for 1g of it to be converted from liquid to gas



a.

Heat of Vaporization



b.

Specific Heat



c.

Ocean Acidification



d.

Aqueous Solution

Feedback

The correct answer is: Heat of Vaporization

Question **18**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

14. Peroxisomes produce



a.

Dihydrogen monoxide and convert it to hydrogen peroxide.



b.

Hydrogen peroxide and convert it to water.



c.

Carbon dioxide and convert it to water.



d.

Hydrogen dioxide and convert it to water.

Feedback

The correct answer is: Hydrogen peroxide and convert it to water.

Question **19**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

34. If the cytoplasm of a cell is at pH 7, and the mitochondrial matrix is at pH 8, then the concentration of H+ ions\_\_\_\_\_\_\_.



a.

In the cytoplasm is 7/8 the concentration in the mitochondrial matrix



b.

In the cytoplasm is 8/7 the concentration in the mitochondrial matrix



c.

Is 10 times higher in the cytoplasm than in the mitochondrial matrix



d.

Is 10 times higher in the mitochondrial matrix than in the cytoplasm

Feedback

The correct answer is: Is 10 times higher in the cytoplasm than in the mitochondrial matrix

Question **20**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

22. Transmission electron microscopes (TEMs) focus a beam of light through a specimen.



a.

T



b.

F

Feedback

The correct answer is: F

Question **21**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

31. In the fractionation of homogenized cells using centrifugation, the primary factor that determines whether a specific cellular component ends up in the supernatant or the pellet is



a.

the size and weight of the component.



b.

the percentage of carbohydrates in the component.



c.

the relative solubility of the component.



d.

the presence or absence of nucleic acids in the component.

Feedback

The correct answer is: the size and weight of the component.

Question **22**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

26. Which of the following is a correct sequence of levels in life's hierarchy, proceeding downward from an individual animal?



a.

organ system, nervous tissue, brain



b.

organism, organ system, tissue, cell, organ



c.

nervous system, brain, nervous tissue, nerve cell



d.

brain, organ system, nerve cell, nervous tissue

Feedback

The correct answer is: nervous system, brain, nervous tissue, nerve cell

Question **23**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

20. In a light microscope (LM), non-visible light passes through a specimen and then through glass lenses, which magnify the image.



a.

F



b.

T

Feedback

The correct answer is: F

Question **24**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

13. Chloroplast structure includes all of the followings except



a.

Cristae



b.

Chlorophyll



c.

Granum



d.

Thylakoids



e.

Stroma

Feedback

The correct answer is: Cristae

Question **25**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

9. One of the followings is not a function of the smooth ER



a.

Energy production



b.

Detoxification of poisons



c.

Synthesis of lipids



d.

Storage of calcium



e.

Metabolism of carbohydrates

Feedback

The correct answer is: Energy production

Question **26**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

23. Which type of interaction stabilizes the α helix and the β pleated sheet structures of proteins?



a.

hydrophobic interactions



b.

disulfide bonds



c.

ionic bonds



d.

hydrogen bonds

Feedback

The correct answer is: hydrogen bonds

Question **27**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

18. All of the followings are types of intercellular junctions except:



a.

Tight junctions



b.

Integrins



c.

Desmosomes



d.

Plasmodesmata

Feedback

The correct answer is: Integrins

Question **28**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

8. Which of the following organelles contains its own DNA and ribosomes?



a.

Golgi apparatus



b.

Mitochondrion



c.

Vesicles



d.

Centrosome



e.

ER

Feedback

The correct answer is: Mitochondrion

Question **29**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

11. Lysosomal enzymes work best in



a.

Hypertonic environment



b.

Neutral environment



c.

Acidic environment



d.

Basic environment

Feedback

The correct answer is: Acidic environment

Question **30**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

12. All of the followings are enveloped by a double membrane except:



a.

Lysosomes



b.

Chloroplasts



c.

Mitochondria



d.

Nuclei

Feedback

The correct answer is: Lysosomes

Question **31**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

49. Prokaryotes are classified as belonging to two different domains. What are the domains?



a.

Eukarya and Monera



b.

Bacteria and Archaea



c.

Archaea and Monera



d.

Bacteria and Eukarya

Feedback

The correct answer is: Bacteria and Archaea

Question **32**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

50. Which of the following is true regarding saturated fatty acids?



a.

They are the principal molecules in butter.



b.

They are the predominant fatty acid in corn oil.



c.

They have double bonds between carbon atoms of the fatty acids.



d.

They are usually liquid at room temperature.

Feedback

The correct answer is: They are the principal molecules in butter.

Question **33**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

45. Which of the following polymers contain nitrogen?



a.

Glycogen



b.

Cellulose



c.

Starch



d.

chitin

Feedback

The correct answer is: chitin

Question **34**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

48. A relatively weak bond between a polar molecule and the weak positive charge on a hydrogen atom is called



a.

hydrogen bond



b.

an ionic bond



c.

a compound bod



d.

a covalent bond

Feedback

The correct answer is: hydrogen bond

Question **35**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

16. Which of the following is not an extracellular matrix (ECM) element?



a.

Collagen



b.

Keratin



c.

actin



d.

Proteoglycans

Feedback

The correct answer is: actin

Question **36**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

17. Cilia and flagella share a common motor protein called



a.

Myosin



b.

Dynein



c.

Kinesin



d.

Motilin

Feedback

The correct answer is: Dynein

Question **37**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

21. Scanning electron microscopes (SEMs) focus a beam of electrons onto the surface of a specimen, providing images that look 3-D.



a.

T



b.

F

Feedback

The correct answer is: T

Question **38**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

39. Dissolving agent is the



a.

Solution



b.

Buffers



c.

Solvent



d.

Solute

Feedback

The correct answer is: Solvent

Question **39**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

38. A localized group of organisms that belong to the same species is called a



a.

Population



b.

Community



c.

Ecosystem



d.

Biosystem

Feedback

The correct answer is: Population

Question **40**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

29. Systems biology is mainly an attempt to



a.

simplify complex problems by reducing the system into smaller, less complex units.



b.

understand the behavior of entire biological systems.



c.

build high-throughput machines for the rapid acquisition of biological data.



d.

analyze genomes from different species.



e.

speed up the technological application of scientific knowledge.

Feedback

The correct answer is: understand the behavior of entire biological systems.

Question **41**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

51. If a DNA sample were composed of 10% thymine (T), what would be the percentage of guanine (G)?



a.

10



b.

40



c.

80



d.

20

Feedback

The correct answer is: 40

Question **42**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

42. How many molecules of water are needed to completely hydrolyze a polymer that is 11 monomers?



a.

9



b.

12



c.

10



d.

11

Feedback

The correct answer is: 10

Question **43**

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

2. The cell is the basic unit of life; this means:



a.

It is the smallest unit in the body that can divide.



b.

It is the smallest unit that can show and perform all the life functions.



c.

It is the smallest unit in the body of a multicellular organism.



d.

It comes in discrete and easily recognizable packages.

Feedback

The correct answer is: It is the smallest unit that can show and perform all the life functions.

Question **44**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

24. What type of covalent bond between amino acid side chains (R groups) functions in maintaining a polypeptide's specific three-dimensional shape?



a.

hydrophobic interaction



b.

disulfide bond



c.

van der Waals interaction



d.

ionic bond

Feedback

The correct answer is: disulfide bond

Question **45**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

3. Which of the following are all eukaryotes?



a.

Fungi, Protists, plants, and bacteria



b.

Protists, fungi, bacteria, and animals



c.

Protists, fungi, plants, and animals



d.

Archaea and fungi

Feedback

The correct answer is: Protists, fungi, plants, and animals

Question **46**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

46. Which of the following solutions has the greatest concentration of hydrogen ions [H+]



a.

tomato juice at pH 4



b.

black coffee at pH 5



c.

vinegar at pH 3



d.

gastric juice at pH 2

Feedback

The correct answer is: gastric juice at pH 2

Question **47**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

15. Which of the following cytoskeletal element is the thickest?



a.

Intermediate filaments.



b.

Microtubules



c.

actin filament.

Feedback

The correct answer is: Microtubules

Question **48**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

44. Which of the following are eukaryotes?



a.

Fungi, Protists, plants, and bacteria



b.

Protists, fungi, bacteria, and animals



c.

Archaea and fungi



d.

Protists, fungi, plants, and animals

Feedback

The correct answer is: Protists, fungi, plants, and animals

Question **49**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

6. Why multicellular organisms, such as humans, are made up of many small cells instead of one large cell?



a.

All of the above is correct



b.

Smaller cells have more surface area for oxygen and nutrients to diffuse into the cytoplasm.



c.

One large cell would not be efficient at obtaining nutrients and oxygen from the environment.



d.

Increasing the surface area to volume ratio of a cell is critical to increasing the interactions needed for life.

Feedback

The correct answer is: All of the above is correct

Question **50**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

41. All of the following are parts of a prokaryotic cell EXCEPT



a.

a cell well



b.

Ribosomes



c.

an endoplasmic reticulum



d.

a plasma membrane

Feedback

The correct answer is: an endoplasmic reticulum

Question **51**

Correct

Mark 1.00 out of 1.00

Flag question

Question text

10. Sorting and packaging materials into transport vesicles take place in



a.

Nucleus



b.

Smooth endoplasmic reticulum



c.

Mitochondria



d.

Lysosomes



e.

Golgi apparatus

Feedback

The correct answer is: Golgi apparatus