Bio 33 Fall 2016 Quiz 1

1. Cell theory suggests that:

   a. all cells are supernatural.
   b. cells take birth form previous cells.
   c. cells are used for flash lights.
   d. a and b above.
   e. b and c above.

2. Only plant cells, none others, have the following:

   a. Plasma membrane.
   b. Nucleus.
   c. Ribosomes.
   d. Golgi apparatus.
   e. Cell wall of cellulose.

3. Which of the following is incorrect?

   a. Most bacterial cells have cell walls.
   b. Plant cells have cell walls.
   c. Fungi cells have cell walls.
   d. Animal cells have Golgi apparatus.
   e. Fungi cells have chloroplast.

4. Science seeks to:

   a. Understand the nature.
   b. Make computers.
   c. Produce GM crops.
   d. Fast moving jet engine.
   e. Reduce CO_2 emission.

5. Technology does the following:

   a. How does a heart beat?
   b. How do we memorize?
   c. What causes Alzheimer?
   d. How does growth gene work?
   e. Add a growth gene to double the growth.

6. The following is not a part of the major theories in biology:
   a. Cell theory
   b. Homeostasis
   c. Bioenergetics
   d. Ecology
   e. Evolution
7. A cell must have the following, except:

a. Plasma membrane.
b. Cytoplasm.
c. Chromosome.
d. Ribosome.
e. Cell wall.

8. The role of mitochondria in a cell is:

a. Guard the cell.
b. Destroy invading virus.
c. Produce hormones.
d. Burn sugar.
e. Cellular defense.

9. A chloroplast does the following:

a. Produces water.
b. Generates CO_2.
c. Heals cellular wounds.
d. Regulates temperature.
e. Makes sugar.

10. The following happens in homeostasis, except:

a. Temperature regulation.
b. Maintain sugar levels.
c. Salt water balance.
d. Oxygen concentration.
e. Ovulation.

11. The following are true, except:

a. High sugar stimulates insulin production.
b. Low sugar stimulates glucagon production.
c. Insulin is produced in the pancreas.
d. Glucagon is produced in the stomach.
e. Insulin reduces sugar from blood.

12. Which of the following is not true?

a. Testosterone generates a negative feedback.
b. Estrogen generates a positive feedback.
c. Oxytocin generates a positive feedback.
d. Insulin generates a negative feedback.
e. Glucagon produces a negative feedback.

13. The following are primary producers, except:

a. Cyanobacteria.
b. Euglena.
c. Protista.
d. Plantae.
e. Fungi.

14. The following happens in bioenergetics, except:

a. Energy is harnessed by the primary producers.
b. Energy is transferred from one trophic level to another.
c. Each energy transfer requires electricity.
d. Each transfer loses 90% of the stored energy.
e. Energy can be transferred between animals.

15. The following are different ecosystems, except:

a. Planet earth.
b. Lake Victoria.
c. Great lakes.
d. KCC aquarium.
e. Jamaica Bay.

16. Biological inheritance includes:

a. Inheriting property from parents.
b. Language from the parents.
c. Inheriting religion from parents.
d. Inheriting a business from parents.
e. Inheriting one of the parental hair colors.

17. We inherit the following biologically from our parents:
a. Sperm from the father and egg from the mother.
b. Genes from the mother.
c. Genes from the father.
d. a and b above.
e. b and c above.

18. The following scientists first demonstrated the inheritance of DNA:

a. Gregor Mendel
b. Frederick Griffith in 1927.
c. Avery *et al*. in 1944.
d. a and b above.
e. b and c above.

19. Which of the following injections into mice confirmed inheritance of DNA by organisms as the means of traits:

a. Boiled *Diplococcus pneumonia* mixed with live non-*Diplococcus pneumonia*.
b. Extracts from *Diplococcus pneumonia* mixed with live non-*Diplococcus pneumonia*.
c. RNA extracts from *Diplococcus pneumonia* mixed with live non-*Diplococcus pneumonia*.
d. DNA extracts from *Diplococcus pneumonia*.
e. DNA extracts from *Diplococcus pneumonia* mixed with live non-*Diplococcus pneumonia*.

20. Dolly was cloned in the following way:

a. A full set of DNA was taken from the brain cells of a donor.
b. A full set of DNA was taken from the donor egg.
c. A full set of DNA was taken from the donor sperm.
d. A full set of DNA was taken from a mammary cell.
e. A full set of DNA was taken from a back faced sheep.

21. The following was used in cloning Dolly:

a. The gene donor was a black faced sheep.
b. The gene donor was a goat.
c. The gene donor was a man.
d. The egg donor was an all-white sheep.
e. The egg donor was a black faced sheep.

22. Microevolution is the result of:

a. Mutations in the DNA while being copied.
b. Evolutions under a microscope.
c. Changes in microscopic organisms.
d. Survival of black colored moth population.
e. Survival from Bubonic plague.

23. An example of macroevolution could be:

a. Survival of only HIV resistant population.
b. Population survived after Bubonic plague.
c. Organisms sustained after a prolonged years of darkness
d. All of the above.
e. None of the above.

24. In human, on average, a new cell carries how many mistakes in their DNA?

a. One in a hundred thousand nucleotides.
b. Ten in a million nucleotides.
c. Thousand in a hundred million nucleotides.
d. All of the above.
e. None of the above.

25. In biological classification the following is true:

a. Aquatic algae and fish are grouped together.

b. Mushrooms are close to plants than animals.
c. Chimpanzee and baboons are closer to tigers and lions than human.
d. All of the above.
e. None of the above.

26. In scientific naming, the extant human species is called:

a. *E. coli.*
b. *Homo erectus*.
c. *Homo neanderthals*.
d. *Homo sapiens.*
e. None of the above.

27. In biological classification, all organisms belong to the domain:

a. Eukarya.
b. Eubacteria.
c. Archea.
d. All above.
e. a and b of the above.

28. In the five kingdom biological classification, human falls in the following kingdom:

a. Eukarya.
b. Eubacteria.
c. Archea.
d. Animalia
e. Protista.

29. In the five kingdom biological classification, thermophile bacteria falls in the following kingdom:

a. Eukarya.
b. Eubacteria.
c. Archea.
d. Animalia
e. Protista.

30. Which is incorrect in Biological classification?

a. Domain is bigger than Phylum.
b. Class is bigger than Order.
c. Family is bigger than Genus.
d. Kingdom is bigger than domain.
e. None of the above

31. Bioethics engages all, except:

a. Biologists

b. Philosophers
c. Sociologists
d. Politicians
e. None above

32. Bioethics guidelines follow all, except:

a. Applications of biology and medicine.
b. Views from faiths.
c. Rejects Judaism, Christianity and Islam.
d. Hinduism, Buddhism and Jainism.
e. None of the above.

33. The following biomedical applications are always unethical, except:
a. Heart transplantation.
b. Gene therapy.
c. Abortion.
d. Stem cell therapy.
e. None of the above.

34. Which of the following is not needed:

a. Heart transplantation.
b. Penis transplantation.
c. Uterus transplantation.
d. Skin transplantation.
e. None of the above.

35. Which of the following does not represent organizing concepts in biology?
a. The scientific methods.
b. Major theories of Biology.
c. Limitations of science.
d. Diversity of life.
e. None above.

36. A hypothesis is a statement or proposal:

a. Found to be correct
b. An educated guess.
c. A theory
d. a and b above.
e. b and c above.

37. When the effect of a chemical was tested on orange production it was found to have an effect. Which of the following statement identifies the independent variable?

a. the amount of chemical used depends on the orange produced.
b. orange production varies independent of the chemical used.
c. the amount of chemical used varies independent to the orange produced.
d. all above
e. none above.

38. In order for the above experiment to be scientifically valid, both must have:

a. the same amount of sunlight.
b. same amount of water and similar orange.
c. good wishes.
d. all of the above.
e. a and b above.

39. Orange grove sprayed with the chemical produces 60 oranges per tree, on average. The control grove that was nor sprayed with the chemical produces 40 oranges per tree, on average. Based on the data, the scientist would be:

a. Confused of the result.
b. Conclude to have a negative effect of the chemical on orange production.
c. Conclude to have a positive effect of the chemical on orange production.
d. Determine the results to be inconclusive.
e. all of the above.

40. In an experiment, a controlled variable represents the following:

a. variable that is not changed by the experimenter.
b. variable that is changed by the experimenter.
c. variable that is being observed.
d. all of the above.
e. none of the above.

41. When a mouse and a plant were kept in a jar, the following happened:

a. The plant ate the mouse.
b. Oxygen produced by the mouse was used by the plant.
c. Carbon di oxide produced by the plant used by the mouse.
d. Oxygen produced by the plant was used by the mouse.
e. None of the above.

42. In a human body:

a. There are more plant cells than animal cells present.
b. Ten percent of the cells in human body are bacterial cells.
c. Bacterial cells are 10 times more than human cells in a human body.
d. Most of the bacterial cells in human body are in the brain.
e. Human skin carries no bacteria.

43. Which is not a part of the scientific method?

a. Theory of relativity.
b. Hypothesis.
c. Experimentation.
d. Data analysis.
e. Conclusion.

44. The limitations of sciences is not reduced by:

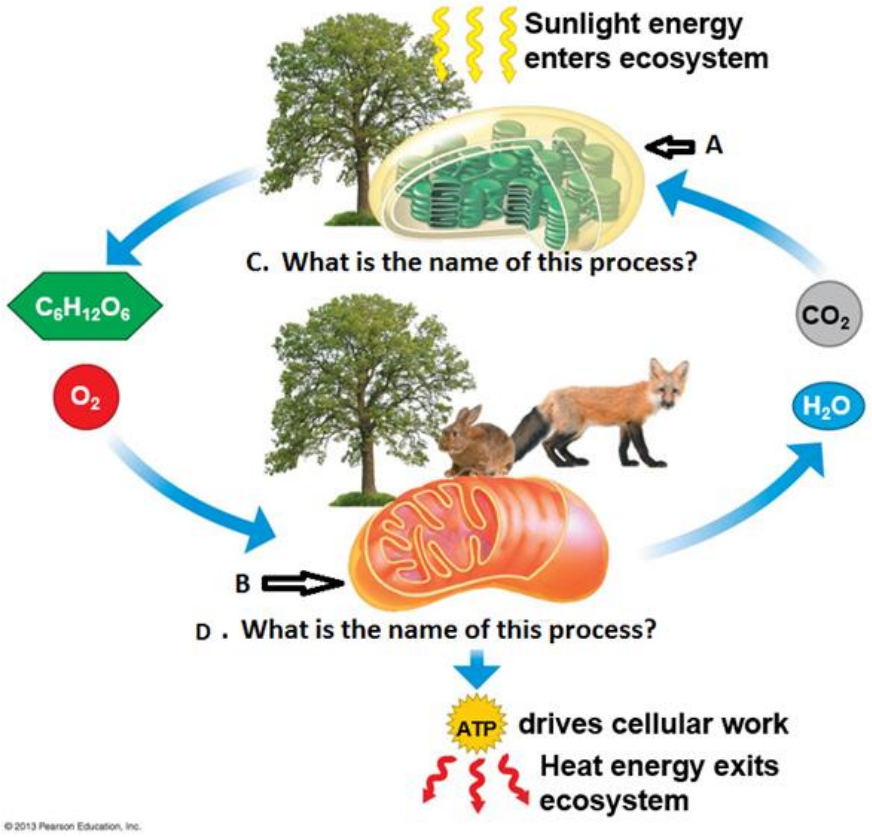
a. A microscope.
b. Computer.
c. Electron microscope.
d. Wireless.
e. None of the above.

45. A test tube baby is generated:

a. inside a test-tube.
b. uniting a sperm with an egg *in vitro*.
c. putting a baby inside the test tube.
d. a and b above.
e. b and c above.

46. What are the roles of A and B in the following figure?
a. A synthesizes proteins and B breaks down proteins.
b. A synthesizes fat molecules and B breaks down fat molecules.
c. A synthesizes sugar and B breaks down sugar.
d. B synthesizes sugar and A breaks down sugar.

47. What are the processes C and D in the following figure are called? What are their roles?
a. C performs glycolysis and D performs photosysnthesis.
b. C performs photosysnthesis and D performs glycolysis.
c. C performs citric acid cycle and D performs glycolysis.
d. C performs photosysnthesis and D performs citric acid cycle
e. No one is correct.



48. Autotroph Organisms that use inorganic nutrients and an outside energy source to produce sugars and other organic nutrients for themselves and other members of the community are _____.

a. Autotrophs
b. Heterotrophs
c. Primary producers.
d. Both a and b above.
e. Both a and c above.

49. Heterotroph

50. Temperature, light, air, water, soil, and climate are all _____ parts of the environment.

a. Biotic
b. Abiotic
c. Living
d. Boreal
e. Hostile.

51. A certain plant requires moisture, oxygen, carbon dioxide, light, and minerals in order to survive. This statement shows that a living organism depends on

a. Biotic factors.

b. Abiotic factors
c. Symbiotic factors
d. Combiotic factors

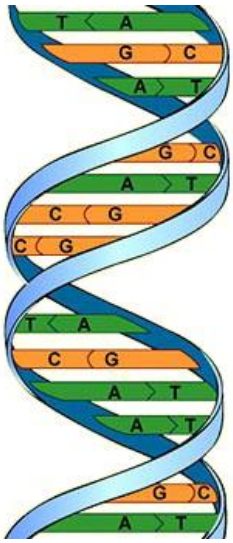
51. Osmosis

a. Hinders in transfer of water across a membrane.
b. Allows water to move from a solution of lower salt to a higher salt across a membrane.
c. Allows salt to move from a solution of lower salt to a higher salt across a membrane.
d. Allows water to move from a solution of higher salt to a lower salt across a membrane.
e. All are correct.

54. Tertiary consumers feed on _____.
a. Producers.
b. Primary consumers.
c. Secondary Consumers.
d. all of the above.
e. none of the above.

53. Inorganic nutrients are released from dead organic matter and animal wastes by _____.
a. Decomposers.
b. Secondary consumers.
c. Producers.
d. autotrophs

54. The DNA molecule as shown in the structure contains the following:



a. Guanine.
b. Histidine.
c. Tyrosine
d. Uracil
e. Asparagine

55. An RNA molecule contain the following, except,

a. Uracil
b. Guanine
c. Cytosine
d. Thymine
e. Adenine