

BIL 255

Homework #1

Choose the best answer from among those given

1. The purpose of the discipline known as cell and molecular biology is to understand the living organism through?
a) its ecology b) interaction with other cells
c) structure of its molecules d) vital forces
e) none of the above is correct
2. Which of the following is credited with the "cell theory"?
a) Francisco Redi b) Rudolf Virchow
c) Robert Hooke D) Theodore Schwann
e) all of the above are correct
3. Credited with the first isolation of DNA?
a) Watson and Crick b) Erwin Chargaff
c) Frederick Miescher d) Emile Fischer
e) none of these researchers
4. For which of the following would you use an electron microscope, rather than a light microscope?
a) to watch organelles move within a cell
b) to look at cells stained with dyes
c) to study moving bacteria
d) to see ribosome
e) choose this answer if none of the above is correct
5. Which of the following statements about the basic chemistry of cells is true?
a) all cells contain exactly the same proteins
b) genetic instructions are stored in DNA & RNA
c) all organisms contain the same genes
d) macromolecules are only found in plant cells
e) choose this answer if none of these is correct

6. Bacteria evolve faster than animals mainly because?
- a) they reproduce more frequently
 - b) they are structurally simpler
 - c) they inhabit a wider range of habitats
 - d) they possess cell walls
 - e) none of the above
7. The limits of resolution of the electron microscope is?
- a) 2.0 μm
 - b) 0.2 μm
 - c) 20 nm
 - d) 0.2 nm
 - e) choose this answer if none of the above is correct
8. If one wanted to use a microscope to see images of 3-D objects with good depth of focus and a resolution between 3 nm and 20 nm, one would use?
- a) a light microscope
 - b) a transmission electron microscope
 - c) a scanning electron microscope
 - d) a fluorescence microscope
 - e) none of the above is correct

Thought question:

The first human cells to be successfully cultured were derived from a malignant tumor. Do you think this simply reflects the availability of cancer cells, or might such cells be better for cell culturing? And Why?

Answers Homework #1

1) c 2) d 3) c 4) d 5) b 6) a 7) d 8) c

Thought question: Cancer cells grow in a much less controlled, more irregular fashion than normal cells. They continue to proliferate and divide in the body, when normal cells have stopped. Cancer cells often have fewer requirements for growth and are therefore more readily cultured in diverse media than normal cells. Because of their ease of growth, culturing cancer cells became a logical first step in the history of the development of cell culturing techniques.