Cell Theory

Your body has about 37 trillion cells. Three scientists showed that every living thing is built from cells, and every cell comes from another cell.

Name: Date: Score: ____ / 17

A. Fill in the blanks

1. All living organisms are made of one or more ____.

2. The cell is the basic ____ and functional unit of life.

3. "Omnis cellula e cellula" means every cell comes from a ____ cell.

4. ____ are an exception because they are not made of cells.

B. True or False

5. Schleiden studied plants and Schwann studied animals. True / False

6. New cells can form from non-living matter. True / False

7. A virus is a cell. True / False

8. Unicellular organisms also follow cell theory. True / False

C. Assertion and reason

9. Assertion (A): Viruses are an exception to cell theory.
Reason (R): Viruses are not made of cells.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

10. Assertion (A): New cells can arise from non-living matter.
Reason (R): All cells arise from pre-existing cells.

(a) Both A and R are true, and R explains A
(b) Both A and R are true, but R does not explain A
(c) A is true, R is false
(d) A is false, R is true

Answer: _____

D. Choose the correct option

11. "All cells arise from pre-existing cells" was given by:

(a) Hooke
(b) Schwann
(c) Virchow
(d) Brown

Answer: _____

12. Which is not part of cell theory?

(a) all organisms are made of cells
(b) the cell is the basic unit of life
(c) cells come from cells
(d) all cells have a nucleus

Answer: _____

13. Cell theory was proposed around:

(a) 1665 (b) 1838-1839

(c) 1931 (d) 1990

Answer: _____

14. An exception to cell theory:

(a) bacteria (b) yeast

(c) virus (d) amoeba

Answer: _____

E. Short answer questions

15. State the three points of cell theory with the scientists.

16. Why are viruses an exception to cell theory?

F. Match the columns

17. Match each item in Column A with the correct item in Column B.

Column A	Column B	Your answer
1. Schleiden	(a) Cells from pre-existing cells	1 → ____
2. Schwann	(b) Plants are made of cells	2 → ____
3. Virchow	(c) Animals are made of cells	3 → ____
4. Virus	(d) Exception to cell theory	4 → ____

Detailed solutions

1. cells

2. structural

3. pre-existing

4. Viruses

5. True. Together they proposed that all organisms are made of cells.

6. False. Virchow: cells come only from pre-existing cells.

7. False. Viruses have no cell structure.

8. True. They are made of one cell.

9. (a) R is the reason they do not fit.

10. (d) A is false; R (Virchow) is true.

11. (c) Virchow. 1855.

12. (d) all cells have a nucleus. Bacteria have no nucleus.

13. (b) 1838-1839. Schleiden and Schwann.

14. (c) virus. Viruses are not cellular.

15. All organisms are made of cells (Schleiden, Schwann); the cell is the basic unit of structure and function; all cells arise from pre-existing cells (Virchow).

16. They are not made of cells and cannot reproduce on their own; they multiply only inside a host cell.

17. 1 → (b), 2 → (c), 3 → (a), 4 → (d). Cell theory combined the work of several scientists.