

# Year 7 *Cells*

## Topic Test

SECTION I – Multiple choice (10 marks)

SECTION II – True or False (5 marks)

minutes

SECTION III – Cloze passage (10 marks)

marks

SECTION IV – Short answer (35 marks)

**Time allowed:** 40

**Total marks:** 60

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### SECTION I - MULTIPLE CHOICE

- 1). The activities of a cell are directed by the:
  - a. membrane
  - b. chloroplast
  - c. nucleus
  - d. vacuole
  
- 2). An instrument used to observe a cell is called a:
  - a. magnifying glass
  - b. spectroscope
  - c. slide
  - d. microscope
  
- 3). Wastes and water inside a cell are stored in the:
  - a. membrane
  - b. chloroplast
  - c. nucleus
  - d. vacuole
  
- 4). The part of the plant cell that contains cellulose is the:
  - a. membrane
  - b. cell wall
  - c. chloroplast
  - d. mitochondria
  
- 5). If you used a x15 eyepiece and a x10 objective, the magnification of the group of cells you were looking at would be:
  - a. x 100
  - b. x 200
  - c. x 300
  - d. x 150
  
- 6). When viewing a cell under a microscope, staining is often used to assist with observations. The main benefit of staining is:
  - a. it improves the colour, making it more interesting.
  - b. it improves the contrast, making the cell and its features stand out more
  - c. it slows down the movement in living cells, making observation easier
  - d. it increases the size of cells, making them easier to see

- 7).** About 150 years ago the cell theory was proposed. Which of the following statements regarding the cell theory is CORRECT?
- a.** all living things are made up of one or more cells
  - b.** new cells are created by old cells dividing
  - c.** all cells are similar to each other but not identical
  - d.** all of the above
- 8).** Which of the following structures is found in both plant AND animal cells?
- a.** chloroplast
  - b.** cell wall
  - c.** cell membrane
  - d.** large vacuole
- 9).** Which of the following types of cell is a plant cell?
- a.** sperm cell
  - b.** red blood cell
  - c.** root hair cell
  - d.** nerve cell
- 10).** Which structure controls what enters and leaves the cell?
- a.** cell wall
  - b.** cell membrane
  - c.** nucleus
  - d.** cytoplasm

## SECTION II - TRUE OR FALSE

*Answer True or False for the following. (1 mark each)*

- 11).** Animal cells have a chloroplast.
- 12).** Both animal and plant cells have a cell wall.
- 13).** The cell membrane controls what enters and leaves a cell.
- 14).** Multicellular organisms are made up of only one cell.
- 15).** There are only harmful bacteria.

SECTION III - CLOZE PASSAGE

Complete the following sentence (on your answer paper), using the words below. Each word can only be used once.

cells	right	chlorophyll	shape
light	wall	microscopes	size
multicellular stereo	magnification	objective lens	

- 16).** All living things are made up of \_\_\_\_\_.
- 17).** \_\_\_\_\_ are used in the observation and investigation of cells.
- 18).** When you look down the microscope and move the slide to the \_\_\_\_\_, what you see moves to the left.
- 19).** Some cells have a boundary around the cell membrane called the cell \_\_\_\_\_.
- 20).** \_\_\_\_\_ organisms are made up of many cells with different types of cells doing different jobs.
- 21).** A \_\_\_\_\_ microscope allows you to use both eyes.
- 22).** Cells within an organism differ in their \_\_\_\_\_ and \_\_\_\_\_.
- 23).** Chloroplasts contain the green pigment \_\_\_\_\_ which is used in photosynthesis.
- 24).** Light microscopes function by allowing \_\_\_\_\_ to pass through the specimen to reach your eye.
- 25).** The two lenses that determine the \_\_\_\_\_ of your microscope are the eyepiece lens and the \_\_\_\_\_ \_\_\_\_\_.

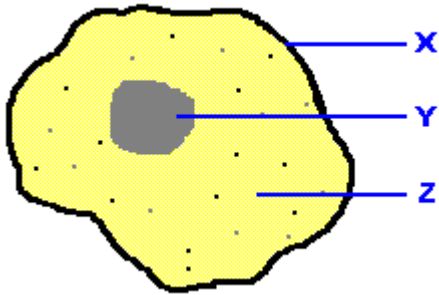
SECTION IV - SHORT ANSWER

**26).** Write a sentence about the first word using the other two. (5 marks)

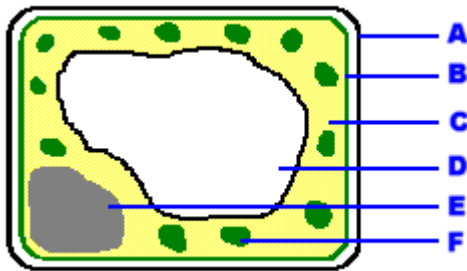
- a).** Cells                      magnify                      microscope
- b).** Tissue                      similar                      group
- c).** Nucleus                      control                      centre
- d).** Organism                      animals                      plants

e). Unicellular single cell

27). Label the parts of the animal cell below. (3 marks)



28). Label the parts of the plant cell below. (6 marks)



29). Describe the correct way to focus a microscope, by numbering the following steps in the correct order. (3 marks)

- \_\_\_\_\_ Move the stage clips into place to secure the slide.
- \_\_\_\_\_ Increase objective lens and fine focus.
- \_\_\_\_\_ Turn the lamp on.
- \_\_\_\_\_ Turn objective lens to lowest power.
- \_\_\_\_\_ Place the slide on the stage
- \_\_\_\_\_ Slowly turn coarse adjustment to focus.

**30).** Explain the function (job) of the following organelles: (4 marks)

**(a).** Cytoplasm.

**(b).** Cell membrane

**(c).** Nucleus.

**(d).** Cell wall

**31).** Complete the sentence.: In 1665 Robert Hooke used the term “cell” for the first time to describe the tiny box-like units in a thin slice of \_\_\_\_\_. (1 marks)

**32).** Describe the steps how you would prepare an onion skin slide for viewing under the microscope. (2 marks)

**33).** Label the parts of the microscope, using the words below. (9 marks)

clips	objective lens	fine focus	stage	coarse focus
mirror (or light)		arm	base	eye piece

**34).** Viruses are extremely small objects that have some cell-like qualities and some characteristics that are similar to non-living matter. Describe how viruses reproduce. (2 marks)

## Some extra questions to add if needed.

12. Determine the total magnification (resolving power) of the following combination of lenses.

Eyepiece (Ocular)	Objective	Total Magnification
X10	X4	
X10	X10	
X10	X40	

- 11). Both plant and animal cells are filled with a jellylike substance called;
- cytoplasm
  - vacuole
  - nucleus
  - cell membrane
- 13). What part of the cell makes proteins?
- ribosomes
  - mitochondria
  - lysosomes
  - vacuole
- 14). What part of the cell serves to process, package and export proteins?
- mitochondria
  - endoplasmic reticulum
  - nucleus
  - golgi apparatus

