Unit 14 · Animal Tissues

WORKSHEET

Full marks 32

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 32

1 Key words [4]

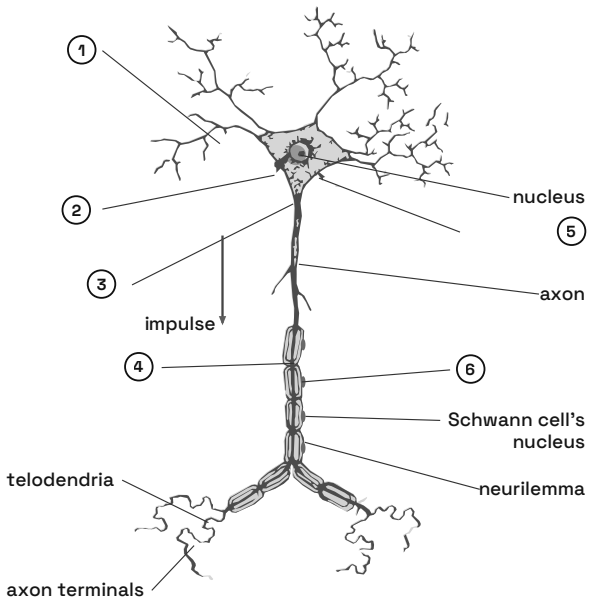
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

astrocyte	**avascular**	**chondrin**	**collagen**	**fibroblast**	**nodes of Ranvier**	**osteoblast**
sarcomere	**Schwann cells**	**transitional**				

An epithelium has no blood vessels: it is _____. The epithelium of the urinary bladder, which stretches as it fills, is _____ epithelium. The cell of connective tissue that makes its fibers and matrix is the _____. A tendon is made mainly of _____ fibers. The rubbery matrix of cartilage is called _____. The stretch of a myofibril from one Z line to the next is a _____. The gaps in the myelin sheath of an axon are the _____. In the peripheral nervous system the myelin sheath is formed by _____.

2 Label the diagram [3]

The diagram shows a motor neuron. Write the names of the parts 1 to 6. Each carries 0.5 mark.



1. _____ **2.** _____

3. _____ **4.** _____

5. _____ **6.** _____

3 Multiple choice [5]

Choose the correct option for each of the following questions.

i. Which junction stops substances leaking between neighboring cells of the gut lining? [1]

a. tight junction
b. gap junction
c. desmosome
d. hemidesmosome

ii. Why is the lining of the urinary bladder transitional and not stratified squamous? [1]

a. it must absorb water from urine
b. it must be kept moist
c. it must stretch a lot as the bladder fills, without tearing or leaking
d. it must secrete mucus

iii. Which tissue would you expect in the wall of the aorta, which swells at each heartbeat and springs back? [1]

a. adipose tissue
b. reticular tissue
c. elastic connective tissue
d. tendon

iv. A blood smear shows a white cell with large, red-orange granules and a nucleus of two lobes. Which cell is it, and when might there be more of them than usual? [1]

a. a neutrophil; in a bacterial infection
b. an eosinophil; in a worm infection or an allergy
c. a basophil; in anemia
d. a monocyte; after a cut

v. During contraction of a skeletal muscle, which part of the sarcomere keeps the same length? [1]

a. the I band
b. the A band
c. the H zone
d. the distance between the Z lines

4 Short answers [9]

Write short answers to the following questions.

a. Name the four types of animal tissue and give the main job of each. [2]

b. Write the three steps of blood clotting. [2]

c. A sprinter and a marathon runner both train hard. Which kind of skeletal muscle fiber would you expect more of in each one's legs, and why? **[2]**

d. Name, from outside in, the layers seen in a transverse section of a mammal's compact bone. **[3]**

5 Long answers **[8]**

Write long answers to the following questions.

a. Compare skeletal, smooth and cardiac muscle in four ways. **[4]**

b. What are neuroglia? Name the kinds found in the central and the peripheral nervous systems, with the work of each. **[4]**

6 Think [3]

Explain why an impulse travels faster along a myelinated axon than along a non-myelinated one of the same thickness, and why this matters for an animal with long nerves.

7 Activity: Muscles in motion (not marked)

List the muscles you use in each action below, and say for each whether it is voluntary or involuntary. Then name one involuntary muscle that works harder while you run.

Action	Muscles used	Voluntary or involuntary
laughing		
walking		
jumping		
cycling		

Which involuntary muscles are working while you run?