

Answer ALL questions.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 The details of the ultrastructure of a cell can be seen using an electron microscope.

(a) Complete the table below. If the organelle can be present, place a tick (✓) in the box and if the organelle could not be present, place a cross (✗) in the box.

(4)

Organelles	Prokaryotic cell	Eukaryotic cell
centrioles		
flagella		
Golgi apparatus		
ribosomes		

(b) Place a cross ☒ in the box next to the correct word or words to complete each of the following statements.

(i) Plant and animal cells may both contain

(1)

- ☐ **A** amyloplasts, centrioles and mitochondria
- ☐ **B** centrioles, mitochondria and rough endoplasmic reticulum
- ☐ **C** chloroplasts, mitochondria and rough endoplasmic reticulum
- ☐ **D** mitochondria, rough endoplasmic reticulum and smooth endoplasmic reticulum

(ii) The cytoplasmic connections between one plant cell and another are known as

(1)

- ☐ **A** middle lamellae
- ☐ **B** plasmodesmata
- ☐ **C** pits
- ☐ **D** tonoplasts



(iii) Prokaryotic cells and plant cells both contain

(1)

- ☐ **A** a cell membrane and chloroplasts
- ☐ **B** a cell membrane and mesosomes
- ☐ **C** a cell wall and chloroplasts
- ☐ **D** a cell wall and ribosomes

(iv) Woese suggested that there are three domains based on evidence from

(1)

- ☐ **A** molecular pharmacology
- ☐ **B** molecular phylogeny
- ☐ **C** molecular physiology
- ☐ **D** phenetic taxonomy

(v) The two domains that contain prokaryotic cells are

(1)

- ☐ **A** Animalia and Bacteria
- ☐ **B** Archaea and Bacteria
- ☐ **C** Bacteria and Eukarya
- ☐ **D** Bacteria and Plantae

(Total for Question 1 = 9 marks)



P 4 5 0 6 8 A 0 3 2 8