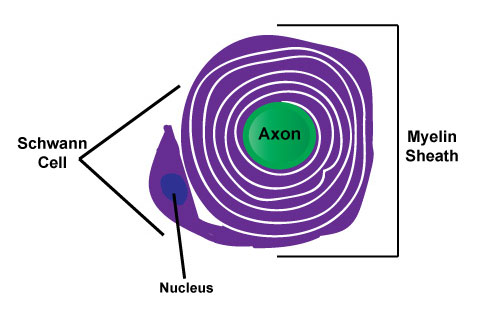
**1.** The diagram shows a longitudinal section through part of the axon of a myelinated neurone.



(a) Describe the structure of the myelin sheath.

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**(2)**

(b) The table shows the speed of conduction of an impulse along axons with different diameters. Data from both myelinated and non-myelinated neurones are included.

|  |  |  |
| --- | --- | --- |
| Type of neurone | Diameter of axon /m | Speed of conduction /m s–1 |
| Non-myelinated  Non-myelinated  Non-myelinated  Myelinated  Myelinated | 2  15  700  10  15 | 2  5  22  30  80 |

With reference to the data, describe and explain the effect that the myelin sheath has on the speed of conduction of a nerve impulse.

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**(5)**

**(Total 7 marks)**