The Nervous System & Reflex Arc

1 What sort of signal does the nervous system carry?

- Electrical impulse

[1 mark]

2 How are nerve cells adapted to their function?

- Branched connects to contact other nerve cells
- Long so they can transport signals long distances etc

[2 marks]

3 Name three things that receptors may detect e.g. receptors in the ears detect sound waves

- Temperature, light, pH of blood, touch, pain, molecules for taste or smell etc

[3 marks]

4 Name the two components of the central nervous system

- Brain and spinal cord

[2 marks]

5 What is the order of the components in the below list when responding to a stimulus?

5 Motor neurone	2 Receptor	1 Stimulus	7 Response
4 CNS	3 Sensory neurone	6 Effector	

[7 marks]

6 Explain what happens at a synapse and why they are necessary

- The electrical signal causes the end of the nerve cell to release chemicals
- The chemicals diffuse across the synapse to the next never
- Where they trigger another electrical impulse
- They allow the message to be passed between neurones

[4 marks]

7 What is a reflex and why are they are so important (you do not need to detail the reflex arc)?

- A reflex is a rapid, automatic repose to a certain stimuli
- That doesn't involve any conscious part of the brain
- They reduce our risk of injury because they are so quick

[3 marks]

8 Explain the reflex action your body would make if you stood on a sharp rock

- The sharp rock will be detected as a stimuli
- By a receptor in our foot, which would send an impulse
- Along a sensory neurone
- To a relay neurone in the central nervous system
- Which would send an impulse along a motor neurone
- To and effector, in this case a muscle in our leg
- Which would contract to move our foot away from the sharp rock
- The neurones would be connected by synapses

[6 marks]

[Total 28 marks]