

## **IGCSE Biology (9-1) Specification 2(j)**

### **(j) Co-ordination and response**

#### **Students should:**

- 2.80** understand how organisms are able to respond to changes in their environment
- 2.81** understand that homeostasis is the maintenance of a constant internal environment, and that body water content and body temperature are both examples of homeostasis
- 2.82** understand that a co-ordinated response requires a stimulus, a receptor and an effector

#### **Flowering plants**

- 2.83** understand that plants respond to stimuli
- 2.84** describe the geotropic and phototropic responses of roots and stems
- 2.85** understand the role of auxin in the phototropic response of stems

#### **Humans**

- 2.86** describe how nervous and hormonal communication control responses and understand the differences between the two systems
- 2.87** understand that the central nervous system consists of the brain and spinal cord and is linked to sense organs by nerves
- 2.88** understand that stimulation of receptors in the sense organs sends electrical impulses along nerves into and out of the central nervous system, resulting in rapid responses
- 2.89** understand the role of neurotransmitters at synapses
- 2.90** describe the structure and functioning of a simple reflex arc illustrated by the withdrawal of a finger from a hot object
- 2.91** describe the structure and function of the eye as a receptor

Dr. James Peros (PhD, BS, BS, BA, AS, CED)

- 2.92** understand the function of the eye in focusing on near and distant objects, and in responding to changes in light intensity
- 2.93** describe the role of the skin in temperature regulation, with reference to sweating, vasoconstriction and vasodilation
- 2.94** understand the sources, roles and effects of the following hormones: adrenaline, insulin, testosterone, progesterone and oestrogen
- 2.95B** understand the sources, roles and effects of the following hormones: **ADH, FSH and LH**

Dr. James Peros (PhD, BS, BS, BA, AS, CED)

Contact: [James@YourEducationPlus.com](mailto:James@YourEducationPlus.com) Site: [www.YourEducationPlus.com](http://www.YourEducationPlus.com)  
Facebook: <https://www.facebook.com/YourEducationPlus/>