B5 Quick Revision Questions

H = Higher tier only
SS = Separate science only
Question 1

• Why does body temperature need to be kept constant?
Answer 1

• Enzyme action
• Cellular functions
Question 2

• Define homeostasis
Answer 2 .... of 50

• The regulation of internal conditions in the body
Question 3

• What are the two parts of the nervous system?
Answer 3

- Central nervous system
- Peripheral nervous system
Question 4

• Describe the pathway of a nerve impulse, from stimulus to response
Answer 4

- Stimulus
- Receptor
- Coordinator
- Effector
- Response

B5 for AQA GCSE examination 2018 onwards
Question 5

• What are reflex actions?
Answer 5 .... of 50

• Rapid, automatic responses to a stimulus
Question 6  .... of 50

• What are the three components of the reflex arc?
Answer 6.... of 50

- Sensory neurones
- Relay neurones
- Motor neurones
Question 7

• How does a nerve impulse travel from one nerve to the next?
Answer 7

- Chemical transmitter molecules are released from one neurone into the synapse
- They diffuse across the synapse
- They bind to receptors on the next neurone
- Channels in the next neurone open
- Nerve impulse initiated in the next neurone

B5 for AQA GCSE examination 2018 onwards
Question 8

• What are the three main regions in the brain?
Answer 8

- Cerebral cortex
- Cerebellum
- Medulla
Question 9 .... of 50

• What is the function on the cerebral cortex?
Answer 9

• Consciousness
• Intelligence
• Memory
• Language
Question 10

• Why are MRI scanners used?
Able to produce very detailed images of the nervous system

Very safe

Non-invasive

Doesn’t use ionising radiation

Safer than CT or PET scans
Question 11  .... of 50

• What test can be used to measure reaction time?
Answer 11 .... of 50

- Ruler drop test

B5 for AQA GCSE examination 2018 onwards
Question 12

• Where are light-sensitive receptor cells found?
Answer 12  .... of 50

- Retina
Question 13

• Give one function of the optic nerve
Answer 13  .... of 50

- Carries impulses from the retina to the brain
Question 14

• What receptor cells are sensitive to colour?
Answer 14 .... of 50

- Cones
Question 15

• How is the iris adapted to low-intensity vision?
Answer 15

- They contain rods
- They are 1000 times more sensitive to light than cones
Question 16

- What is refaction?
Answer 16 .... of 50

• The bending of light rays as they travel from one medium to another
Question 17

• How do light rays approach the eyes from distant and near objects?
Distant = light rays are nearly parallel
Near = light rays diverge
Question 18

• What is the name of the process that changes the shape of the lens?
Answer 18

• Accomodation

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B5 for AQA GCSE examination 2018 onwards
Question 19

• How can a concave lens be used to correct short-sightedness?
Answer 19

- Concave lenses allow light rays to diverge before they reach the eye
- This focuses the image on the retina
• What are the three causes of long sightedness?
Answer 20

- Lens is too weak – not thick enough
- Eyeball is too short
- Cornea isn’t curved enough

B5 for AQA GCSE examination 2018 onwards
Question 21

• What does laser surgery do?
Answer 21

• Change the shape of the cornea

B5 for AQA GCSE examination 2018 onwards
Question 22

• Where is body temperature monitored and controlled?
• Thermoregulatory centre in the brain
Question 23

• Give two things that occur when body temperature drops
Answer 23

- Vasoconstriction
- Sweating – reduced or stopped
- Skeletal muscles contract and the body shivers
Question 24  .... of 50

• Why is the pituitary gland called the master gland?
Answer 24 .... of 50

- As it regulates the secretion of other endocrine glands
Question 25  .... of 50

- Name one hormone that exerts its effect over the whole body
Answer 25 of 50

- Growth hormone (STH)

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Question 26

• What effect does glucose have on our body’s cells?
Answer 26 .... of 50

• Causes glucose in the blood to move into our body’s cells
• In liver and muscle cells, glucose is converted to glycogen so it can be stored
Question 27  .... of 50

• What is the normal concentration of blood glucose?
Answer 27

- 4-7 mmol/dm³
Question 28

• What is the cause of type 2 diabetes?
Answer 28 .... of 50

- Body’s cells lose insulin sensitivity
- Don’t respond at all or as effectively to insulin
Question 29 .... of 50

• How can the glucose tolerance test be used to help diagnose type 2 diabetes?
Answer 29 .... of 50

• Blood glucose measured after 8-12 hours of no eating or drinking
• Give patient glucose and retest blood 2 hours later
• If person’s tolerance is lowered = glucose will be above a certain level when retested
Question 30 .... of 50

• How can type 1 diabetics control the condition?
Answer 30  .... of 50

• Insulin injections
Question 31

• What is the typical volume of water lost through a person’s lungs?
Answer 31 .... of 50

• $0.4\text{dm}^3$
Question 32

• How do the body cells lose and gain water?
Answer 32

• By osmosis

SS

B5 for AQA GCSE examination 2018 onwards
Question 33

• What is the role of the kidneys?
Answer 33

- Maintain the water balance of the body
Question 34

• What does thyroxine do?
Answer 34 .... of 50

• Stimulates the body’s basal metabolic rate
Question 35

• What is the negative feedback system?
• Feedback that switches off a system when the desired effect is reached
Question 36

• What is dialysis?
Blood taken from the arm
The filtering of waste from a patient’s blood through a partially permeable membrane
Blood is then returned to the arm
Question 37

• What are the risks of a kidney transplant operation?
Answer 37

- Rejection of the kidney
- Immunosuppressant drugs for the rest of their life (increased risk of infection and cancer)
- May have to find another kidney before the end of their life
Question 38

- Give one complication arising from dialysis
Answer 38

• Sudden fall in blood pressure
Question 39

- Which four hormones control the menstrual cycle?
Answer 39

- Follicle stimulating hormone (FSH)
- Luteinising hormone (LH)
- Oestrogen
- Progestogen

.... of 50
Question 40

• Why are FSH and LH given as fertility treatments?
• As a fertility drug
• Many women then ovulate and become pregnant
Question 41

• Who determines the selection procedure for IVF on the NHS?
Answer 41 .... of 50

• The National Institute for Health and Care Excellence (NICE)
Question 42

• How do the nervous and endocrine systems work together in times of stress?
Answer 42  .... of 50

• E.g. adrenaline
• Nervous connections between brain and adrenal glands
• Adrenal medulla in the adrenal gland responds to nervous stimulation by releasing the hormone adrenaline
Question 43

• List three indicators of ovulation
• Menstrual cycle – occurring at around 14 days
• Slight increase in body temperature
• Thinning of mucus secreted from the cervix
Question 44 .... of 50

• When should a spermicidal cream be used?
Answer 44 .... of 50

- It can help with the effectiveness of other contraceptives e.g. diaphragms
Question 45 .... of 50

• Give one advantage and one disadvantage of using an IUD
• Advantages
  – Works immediately
  – Can stay in place for 10 years (copper), 3-5 years (hormonal)

• Disadvantages
  – Insertion may be uncomfortable
  – Periods may be longer or more painful
Question 46

• How do auxins cause plants to bend towards the light?
Auxins are synthesised in the tip of the shoot
They move away from light
Unequal distribution of auxin causes the root to grow downwards
Question 47

• Where are stem cells found in plants?
Answer 47

• Meristems
Question 48

• Name the process by which plants respond to gravity
Answer 48

- Gravitropism
Question 49

• Give three uses of gibberellins
Answer 49

- Speeds up germination
- Promote flowering
- Promote fruit growth
Question 50

• What is an advantage of using auxins as a weedkiller?
• Plants with broad leaves are more sensitive to auxins in weed killers than plants with narrow leaves

• Farmers can kill weeds in a field of wheat or barley without harming the crop