

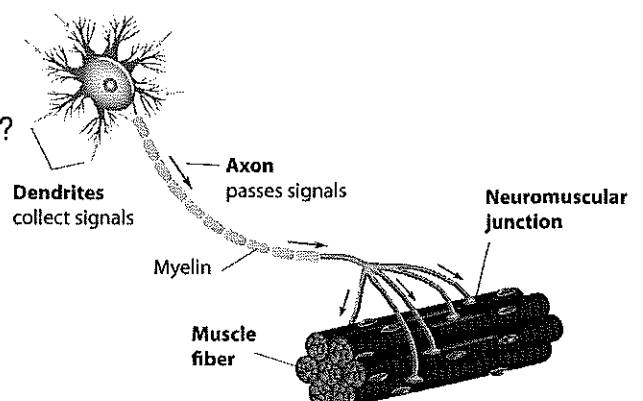
Year 9 Science

Biology 1 Test: Body coordination and disease

SECTION 1: MULTIPLE CHOICE (1 mark each)

Circle your answer on the multiple choice answer sheet.

1. Metabolism is best defined as:
 - ☒ a) All the chemical reactions that occur in the body.
 - b) How the body maintains its balance and conditions.
 - c) The way the body uses food to make energy.
 - d) The way that particles, such as oxygen and glucose, move into cells.
2. Which of the following is an example of a catabolic reaction?
 - a) Plants and animals build carbohydrates out of simple sugars like glucose.
 - b) Plants use sunlight to convert carbon dioxide and water into sugars and starches.
 - ☒ c) All cells break down glucose to release energy and simple molecules.
 - d) Fatty acids and glycerine are used to build large molecules called lipids (fat molecules) for energy storage.
3. Which of the following statements about enzymes are NOT TRUE?
 - a) Enzymes are made of protein.
 - b) Enzymes speed up reactions in the body.
 - c) Enzymes can be damaged or destroyed by changes in pH or temperature.
 - ☒ d) Enzymes only work on catabolic reactions.
4. Cellular respiration occurs in the cell cytoplasm and mitochondria and releases energy for the cell. To work, cellular respiration requires all of the following, except:
 - a) glucose
 - b) oxygen
 - c) enzymes
 - ☒ d) water
5. The central nervous system (CNS) consists of the
 - a) spinal cord and nerves.
 - ☒ b) spinal cord and brain.
 - c) brain and nerves.
 - d) brain and glands.
6. Which type of neurons carry messages from receptors to the central nervous system?
 - ☒ a) Sensory neurons
 - b) Connector neurons
 - c) Relay or interneuron
 - d) Motor neurons
7. The diagram shows which type of neuron?
 - a) Sensory neuron.
 - b) Connector neuron.
 - c) Relay or interneuron.
 - ☒ d) Motor neuron



8. The part of the brain associated with thinking and reasoning is the

- a) pituitary
- b) medulla
- ☒ c) cerebrum
- d) brain stem

9. The cerebellum is responsible for

- a) speech and language
- b) memory and emotions
- ☒ c) coordination and balance
- d) breathing and body temperature

10. The structure in the brain that links the nervous system to the endocrine system and controls all other glands, is the

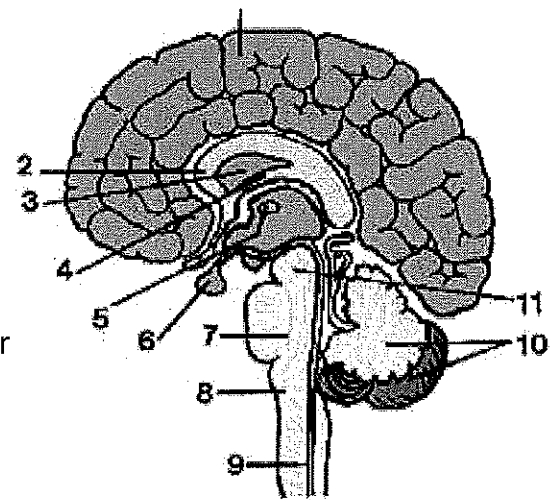
- a) pineal gland
- ☒ b) pituitary gland
- c) hypothalamus
- d) testes

11. The structure shown in the diagram as 8 is called

- a) cerebrum
- b) cerebellum
- c) hypothalamus
- ☒ d) medulla

12. The pituitary gland shown in the diagram is number

- a) 4
- ☒ b) 6
- c) 7
- d) 8



13. The process of maintaining a constant internal environment is known as

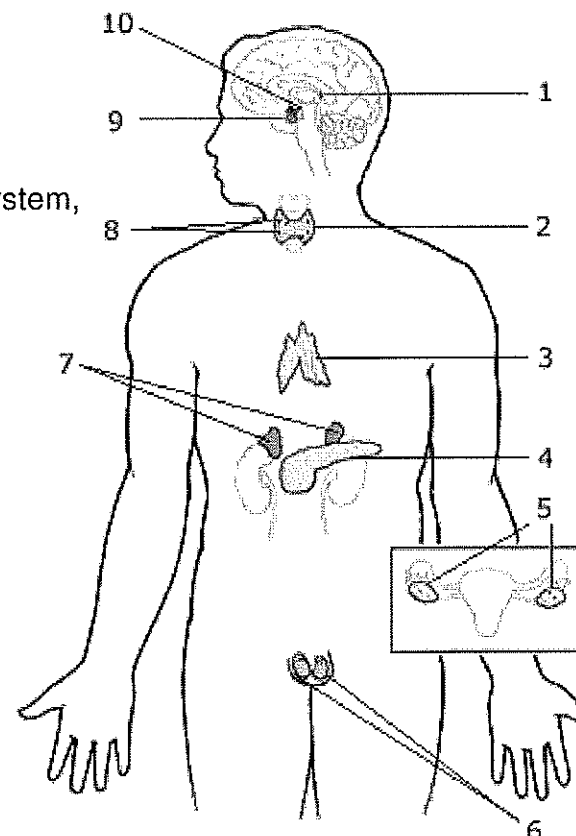
- ☒ a) homeostasis
- b) effector
- c) ectothermic
- d) endothermic

14. On the diagram of the glands of the endocrine system, the structure labelled 2 is the

- a) hypothalamus
- ☒ b) thyroid
- c) thymus
- d) pancreas

15. The structured labelled 7 are the

- a) kidneys
- ☒ b) adrenal glands
- c) pancreas
- d) ovaries



16. Harmful bacteria that cause disease are called

- ☒ a) pathogens
- b) viruses
- c) microorganisms
- d) moulds

17. Which of the following is NOT one of the body's first line of defence against infection?

- a) Skin and hairs
- b) Fluids such as tears and saliva
- c) Stomach acid
- ☒ d) White blood cells

18. Which of the following infections is caused by a bacteria?

- ☒ a) tetanus
- b) diabetes
- c) cold and flu
- d) measles

19. Warts are caused by

- a) bacteria
- ☒ b) virus
- c) parasites
- d) fungi

20. In the past, sailors commonly developed a disease called scurvy, which made their gums bleed, their teeth fall out, their joints to swell and their wounds to heal slowly.

Scurvy is caused by

- a) high blood pressure
- b) too much sugar
- ☒ c) lack of vitamin C
- d) too much salt

SECTION 2: WRITTEN

Write your answers in the spaces on the answer sheet provided.

1. Name and briefly describe the two types of metabolic reactions (4)

Name	Description
CATABOLIC	BREAKDOWN REACTIONS RELEASE ENERGY
ANABOLIC	BUILDING REACTIONS USE ENERGY

2. List the 6 types of nutrients that your body requires (6)

- CARBOHYDRATES - GLUCOSE SUGARS STARCHES
- LIPIDS - FATS + OILS
- PROTEINS
- VITAMINS
- MINERALS
- WATER

3. Diffusion is the process by which particles move from high concentration to low concentration.

a) Give two examples of where diffusion occurs in the body (2)

LUNGS O_2 ALVEOLI \rightarrow CAPILLARIES CO_2 CAPS \rightarrow AL

CELLS CAPILLARIES \rightleftharpoons CELLS

DIGEST NUTRIENTS S.I \rightarrow CAPILLARIES

b) Describe one feature that helps diffusion to occur in both of these examples (1)

LARGE SURFACE AREA, LARGE CONCENTRATION GRADIENT

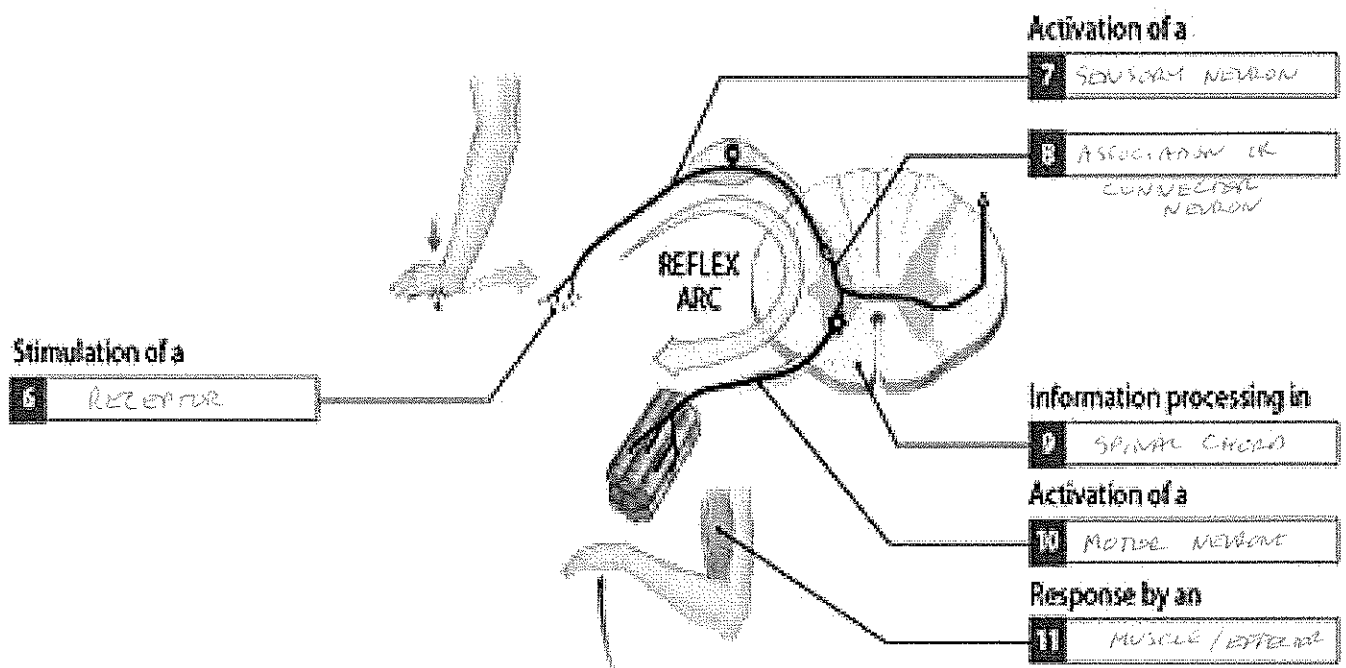
4. Name one gland of the endocrine system, one of the hormones it produces and the effect of that hormone (3)

Name of gland	PITUITARY ADP PLP THYROID PARA THYROID PANCREAS ADRENAL TESTES OVARIES
Hormone	
Effect	See TEXT for each

5. Temperature regulation is one aspect of homeostasis that is controlled by both the nervous system and the endocrine system. Complete the table to show the two main differences between how the nervous system and endocrine system work. (4)

	Nervous system	Endocrine system
Messages delivered by...	NERVE - ELECTRICAL IMPULSE	HORMONES IN BLOOD
Speed of delivery...	RAPID 400 m/sec	SLOW

Label the following diagram of the components of a nerve pathway, such as a reflex (6)



END OF TEST (OUT OF 46 MARKS)

