

S.4 BIOLOGY ASSESSMENT TEST

TIME: 90 MINUTES

TOPIC: COORDINATION IN ANIMALS

INSTRUCTIONS: Attempt all questions

SECTION A

1. The ability of an organism to react to changes in the environment is known as
- A. Stimulus B. Impulse C. Locomotion D. Irritability

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2. Which one of the following is a function of thyroxine?

- A. Controls water reabsorption in the body.
B. Controls basic metabolic rate in vertebrates.
C. Regulates activities of other endocrine glands.
D. Controls the functioning of the thyroid glands.

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3. The paths followed by impulses during a reflex action are:

- (i) muscle, (iii) sense organ, (v) motor neuron.
(ii) sensory neuron, (iv) association neuron.

The correct order followed by impulses is

- A. (iii), (iv); (ii); (i) C. (iii); (ii); (iv); (v); (i)
B. (i); (v); (iv); (ii); (iii) D. (ii); (iii); (iv); (v); (i)

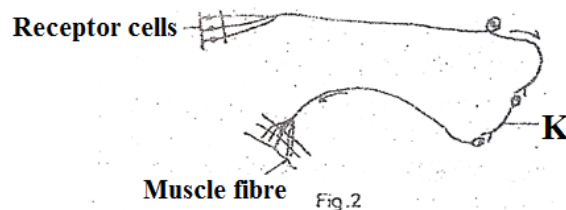
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4. Which one of the following glands secretes growth hormone in mammals?

- A. Pancreas B. Pituitary gland C. Adrenal gland. D. Gonads

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5. Figure 1 is a simplified reflex arc. The part labelled K is

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- A. the relay neurone. C. The sensory neurone.
B. A ganglion. D. The motor neurone.

6. Which one of the following shows the correct path followed by light rays to produce an image at the retina?

- A. Cornea, aqueous humour, lens, pupil, vitreous humour, retina.
B. Cornea, vitreous humour, pupil, lens, aqueous humour, retina.
C. Cornea, pupil, vitreous humour, lens, aqueous humour, retina.
D. Cornea, aqueous humour, pupil, lens, vitreous humour, retina.

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7. What is the functional unit in a nervous system called?

- A. Dendrite. B. Neurone C. Axon. D. Synapse

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8. Which of the following correctly describes the changes that take place when a person looks at a distant object?

Ciliary muscle**Suspensory ligament****Shape of lens**

- | | | |
|--------------|-------------------|---------------------|
| A. Contracts | Becomes less taut | Becomes more convex |
| B. Contracts | Becomes taut | Becomes less convex |
| C. Relaxes | Becomes less taut | Becomes less convex |
| D. Relaxes | Becomes taut | Becomes less convex |

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9. The main function of the eustachian tube in the mammalian ear is to
- concentrate the sound waves into the middle ear.
 - transmit sound waves to the brain.
 - transmit sound waves to the middle ear.
 - regulate pressure in the middle ear.
10. Which of the following would happen if a torch was shown directly into a person's eye
- Iris muscles would contract, narrowing the pupil.
 - Lens would bulge, allowing less light to enter.
 - Iris muscles would relax, narrowing the pupil.
 - Lens would flatten, diverging light rays.

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11. Which **one** of the following is a difference between nervous and endocrine coordination?

	Nervous	Endocrine
A.	Message are transmitted slowly	Message are transmitted rapidly
B.	Effect are localized	Effect are widespread
C.	Produce long lasting effect	Produce short lived effect
D.	Message is chemical	Message is electrical

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12. Which one of these glands secretes a hormone whose normal effect is to influence the rate of heart beat?

A. Islets of Langerhans B. Pituitary. C. Thyroid gland. D. Adrenal gland

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13. When one enters a dark room, he is able to see clearly after sometime. This is due to the presence of.....in the eyes.

A. Cones B. Rods C. Retina D. Blind spot

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14. Which part of the eye contains blood vessels that supply oxygen and nutrients and removes metabolic waste from the eye?

A. Retina B. Choroid C. Ciliary body D. Cornea

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15. A person who has drunk a lot of alcohol usually loses body balance and posture. Which part of the brain is usually affected?

A. Cerebrum B. Medulla C. Cerebellum D. Hypothalamus

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16. Which of the following organs contain glands which are part of the endocrine system?

A. Liver, pancreas, heart C. Brain, testes, heart
B. Brain, pancreas, ovary D. Kidney, heart, liver

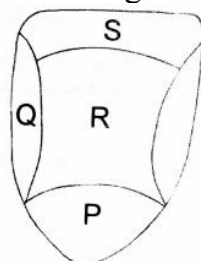
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17. Which of the following is a function of thyroxine hormone?

A. Promotes development of follicle in the ovary.
B. Prepares the body for fright-flight action.
C. Controls body metabolic rate.
D. Regulates sugar content of the body.

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18. Figure 2 below shows the tongue's taste areas;



Which part is responsible for the bitter taste?

A. P
B. Q
C. R
D. S

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19. Which one of the following is correct order of arrangement of the ossicles in the middle ear?

A. Malleus, incus and stapes

C. Malleus, stapes and incus.

B. Incus, stapes and malleus

D. Incus, malleus and stapes

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20. Which one of the following is true about the nervous system of a mammal?

A. Cell bodies of the sensory neurones are found in the ganglia.

B. Cell bodies of the sensory neurones are formed in the grey matter.

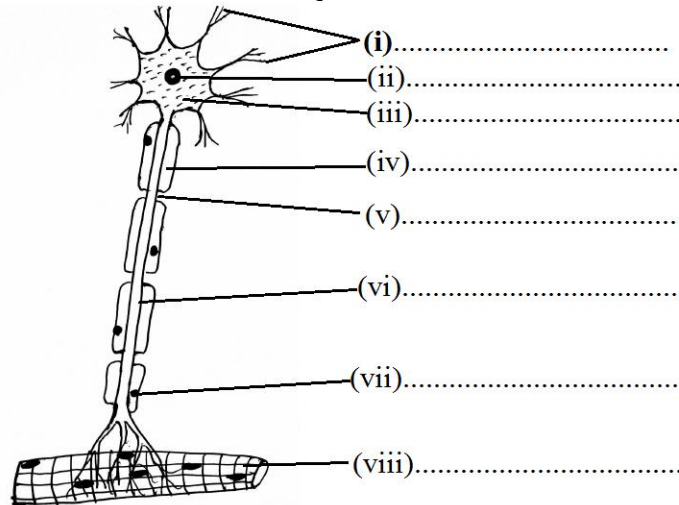
C. Sensory neurones transmit impulses from the central nervous system to receptors.

D. Cell bodies to sensory neurones are found in the receptors.

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SECTION B

1. Study figure 6 below and answer the questions that follow.



(a). Name the parts labelled (i) to (vi) on the diagram. (04 marks)

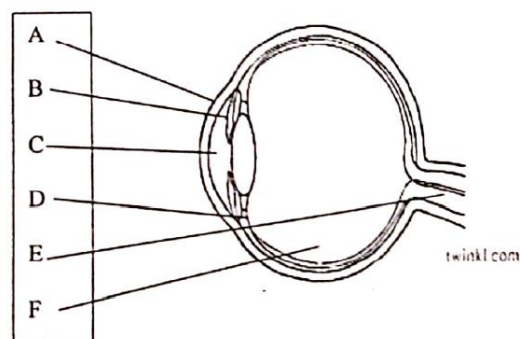
(b) By means of an arrow show the direction of impulses propagation in the diagram above. (01 mark)

(c) (i) What type of neurone is this? (01 mark)

(ii) What action does it induce in the body? (01 mark)

(d) What is the function of structure labelled (iv)? (01 mark)

2. Study the diagram below and answer the questions that follow.



(a) Name parts labeled A-F

(03marks)

A..... B..... C.....
D..... E..... F.....

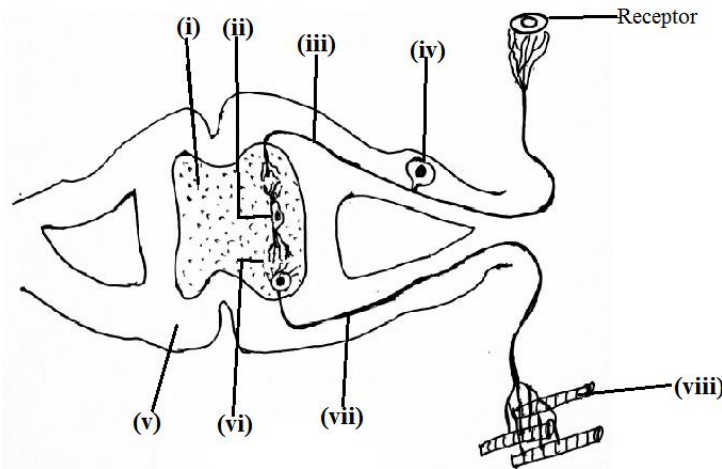
(b) Describe the adjustments that would occur in part D when one is looking at a star.

(03marks)

(c) Explain how myopia is corrected using lenses.

(04 marks)

3. The figure below shows part of the central nervous system and reflex arc.



(a) Name the labeled parts.

(04 marks)

(i)..... (ii)..... (iii).....
(iv)..... (v)..... (vi).....
(vii)..... (viii).....

(b) Draw arrows on the above diagram to show the direction of impulse flow.

(01 mark)

(c) Briefly describe how impulses are transmitted across part (vi).

(03 marks)

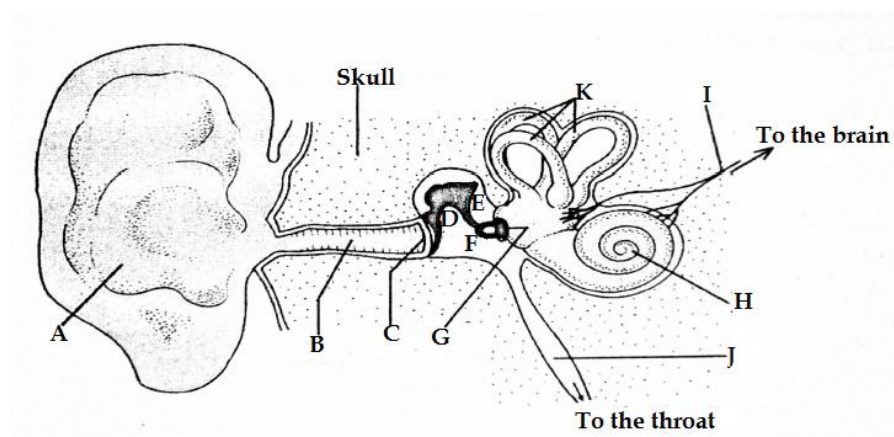
(d) Give one example of a simple reflex action and its signature.

(02 marks)

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4. The figure below shows the section through the human ear. Study it carefully and answer the questions that follow.



(a) (i) Name the parts labelled

(02 marks)

A C

B G

(ii) State the general name for structures D, E and F

(01 mark)

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(iii). State the function of the following structures:

(02 marks)

J

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K

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(b) Describe how the structures labelled A to I are involved in the hearing process. (05 marks)

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SECTION C

1. (a) With examples, what is meant by the following;
 - (i) Exocrine glands (01 ½ marks)
 - (ii) Endocrine glands (01 ½ marks)(b). Describe the roles played by the various secretions of the different endocrine glands in the human body. (12 marks)
2. (a) State, giving two examples in each case, what is meant by the following terms:
 - (i) Voluntary action. (02 marks)
 - (ii) Involuntary action (02 marks)(b) Imagine you are sitting outside in the tree shade reading a book; you look up from the book to a distant sunlit mountain and then down to the book again. Describe the sequence of events that occur in your eyes as the two actions take place. (09 marks)

END!!!

“What men have done, Man can do!!!!!!”@SCZ Salongo

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