IRRITABILITY & SENSITIVITY IN

PLANTS & ANIMALS

KCSE QUICK REVISION

Compilation of Possible Questions in Biology Likely to be Examined in KCSE.

A Special Analysis of Prediction Questions that may be Tested in KCSE from this Topic in Form 4.

BIOLOGY

SERIES 1

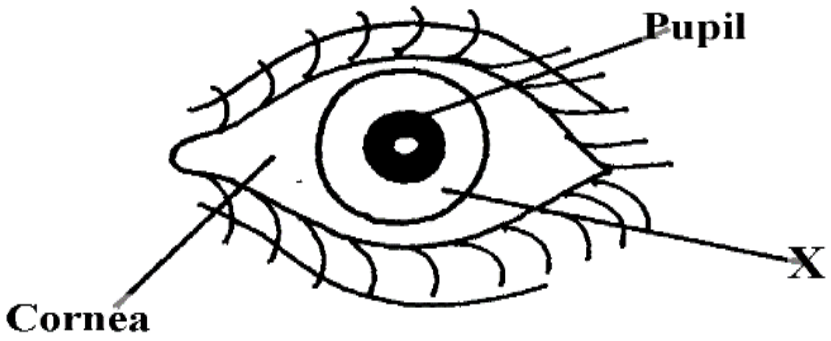
For Marking Schemes

Mr Isaboke 0746 222 000 / 0742 999 000

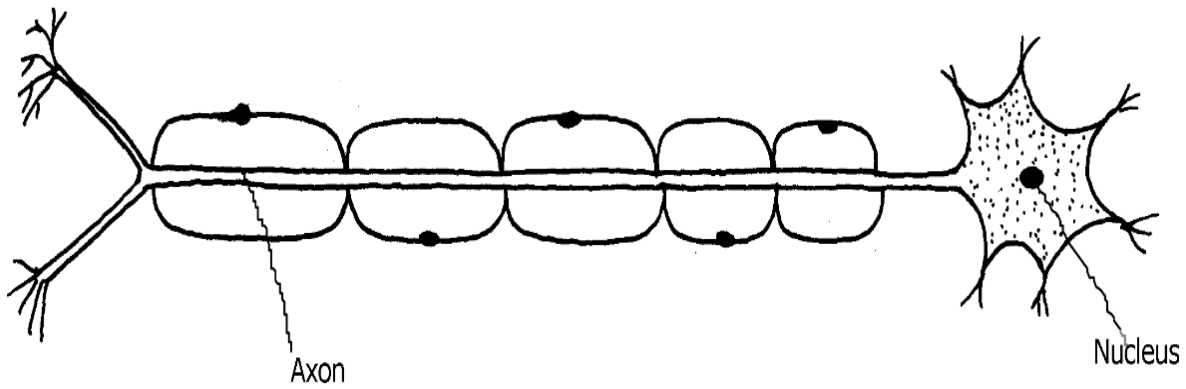
MWALIMU CONSULTANCY

IRRITABILITY AND SENSITIVITY IN PLANTS &ANIMALS

1. Give **two** functions of the exoskeleton in arthropods.
2. When shoots of young plants are exposed to unidirectional light they bend towards light;
   a) Name the type of response exhibited by the young shoots
   b) Explain the cause of the observation above
3. Study the drawing below and use it to answer the questions that follow :-



a) Name the part labeled **X.**
   b) Describe the changes that occur in the structure **X** in dim light.
   c) What is meant by the term **accommodation** with reference to the eye?
4. (a) State **two** differences between taxes and tropisms
   (b) Give **two** survival values of tactic movements to organisms
5. The diagram below represents a type of neurone.



(a) (i) identify the neuron above.

(ii) Give a reason for your answer in a (i) above.

(a) With an arrow, indicate on the diagram the direction of an impulse through the neurone.

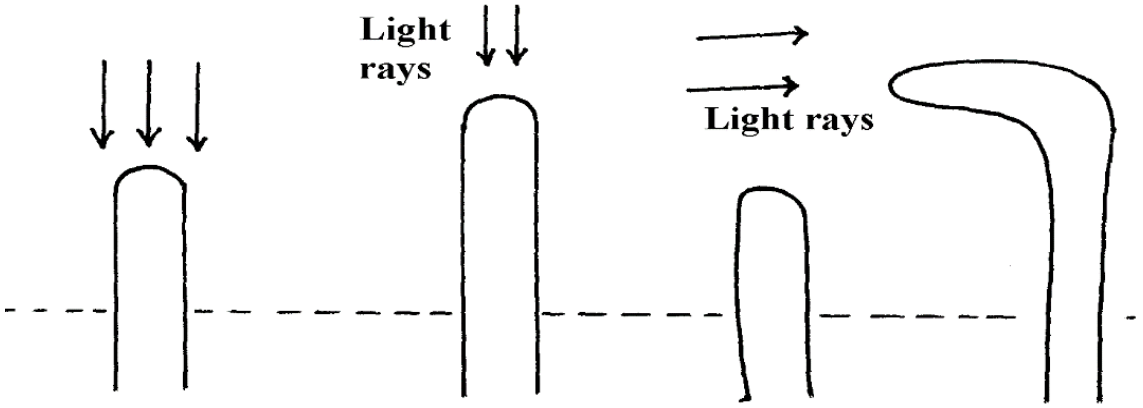
(b) Name the chemical substance that brings about transmission of impulse across a synapse

6. **A** student was traveling from Nairobi to Mombasa. As the bus descended down hill he felt an unpleasant sensation in the ear.

(a) How did the sensation come about?

(b) How can the unpleasant sensation be relieved?

7. An experiment was carried out to investigate a growth response in maize seedling as shown in the diagram below:

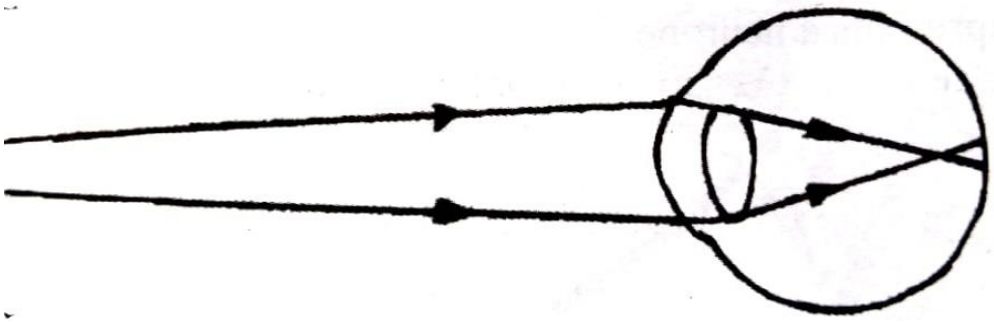


(a) State the type of response that is being investigated

(b) Explain the response exhibited by the shoot

8. State **three** genetic disorders caused by gene mutations

9. The diagram below shows the position of an image formed in a defective eye:-



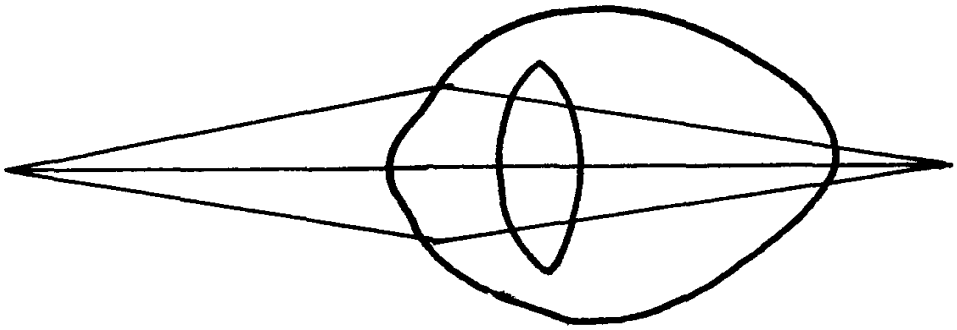
(a) Name the defect

(b)Explain how the defect named in **(a)** above can be corrected

10. **(a)** State **three** structural differences between arteries and veins in mammals
(b) Name a disease that causes thickening and hardening of arteries

11. **(a)** Name the part of the eye in which the light sensitive cells are located
(b) List the **two** types of sensory cells found in the part named in (a) above

12. The diagram below illustrates a certain eye defect



(a) State the defect
(b) On the diagram illustrate how the defect can be corrected
(c) State **one** advantage of having two eyes in human beings

13. Briefly explain the role of the following part of skin
a) Cornified layer
b) Malpighian layer

14. State the functions of the following structures of the mammalian ear
a) Eustachian tube
b) Essicles

15. a) Distinguish between conditioned and simple reflexes
b) State how the nerve cell structure is suited to its function of impulse transmission

16. (a) Name the part of the mammalian eye that:
(i) Transmits impulses to the brain
(ii) Regulates the amount of light entering the eye
(b) State the changes that occur in the part of the eye named in **(a) (ii)** above when one moved from bright light to dim light conditions

17. Name the type of response exhibited by the following:
(a) A pollen tube growing towards the embryo sac
(b) Maggots moving from lit side of a box to the dark side

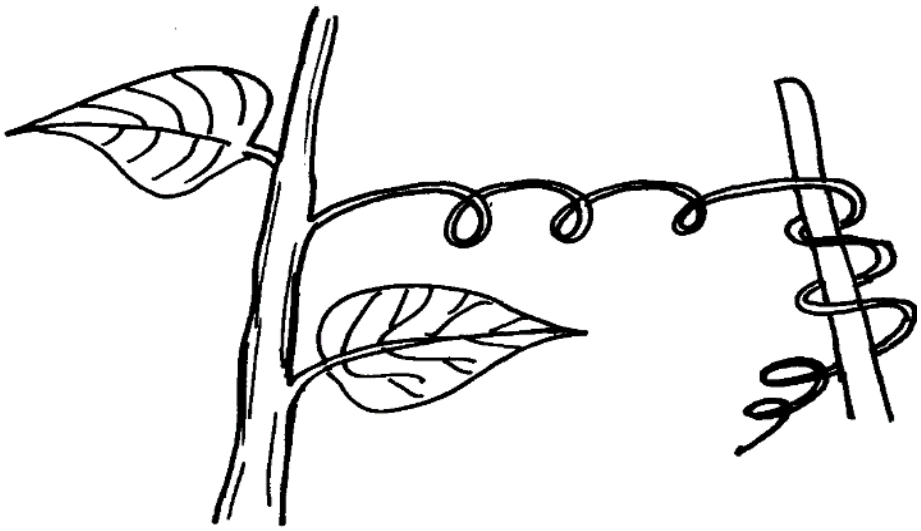
18. A response exhibited by a certain plant tendril is illustrated below:



(i) Name the type of response

(ii) Explain how the response named in **(i)** above occurs

19. A response exhibited by a certain plant tendril is illustrated below:-



Name the type of response

20. Removal of the apical bud from a shrub is a practice that results in the development of many lateral buds which later form branches

(a) Give reasons for the development of lateral branches after the removal of the apical bud

(b) Suggest **one** application of this practice?

21. In an accident a victim suffered brain injury. Consequently he had loss of memory which part of the brain was damaged?

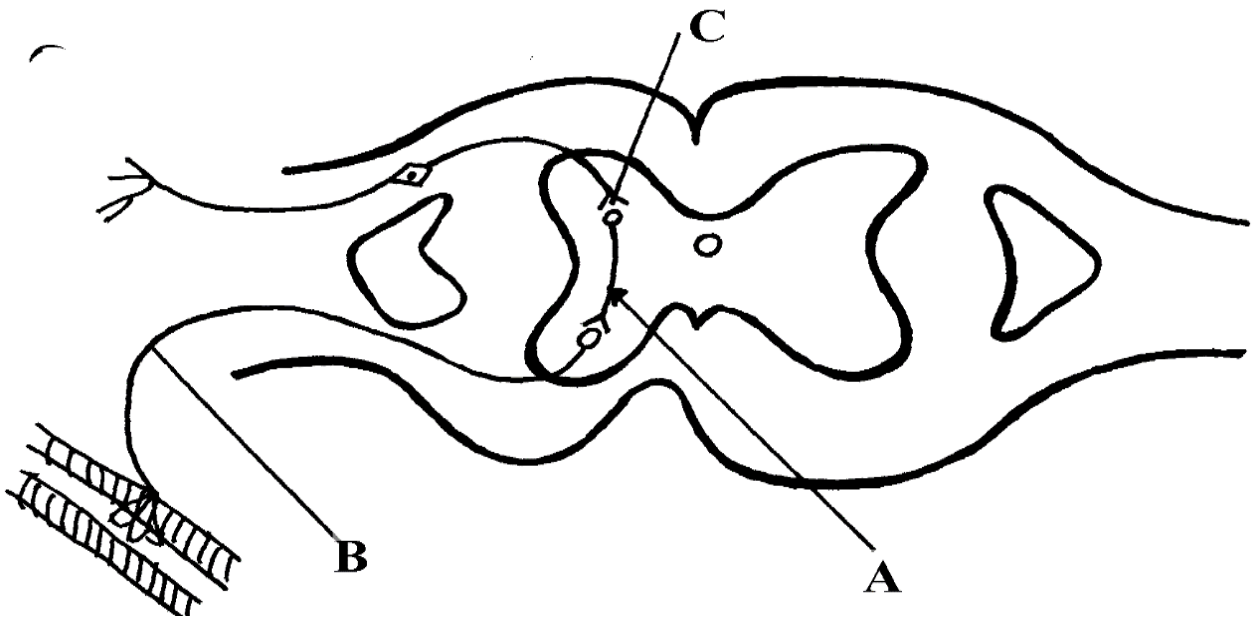
22. A person was able to read a book clearly at arm's length but not at normal reading distance

(a) State the eye defect the person suffered from

(b) Why was he unable to read the book clearly at normal distance?

(c) How can the defect be corrected?

23. The diagram below represents a simple reflex arc;



(a) Name the parts labeled **A** and **B**

(b) Explain how an impulse is transmitted across the gap labeled **C**

24. (a) State **two** functions of a mammalian ear

(b) How is the cochlea suited to its function

25. State **one** function of potassium ions in the human body.

26. State **two** functions of vitamin B_5 (pantothenic acid).

27. **(**a) What is the biological importance of tactic responses?

(b) A person had an accident and had problems with his vision, hearing and memory.

Identify the part of the brain that was affected

28. Identify the following responses shown by plants:-

(a) Shoots grow towards light

(b) Roots grow towards gravity

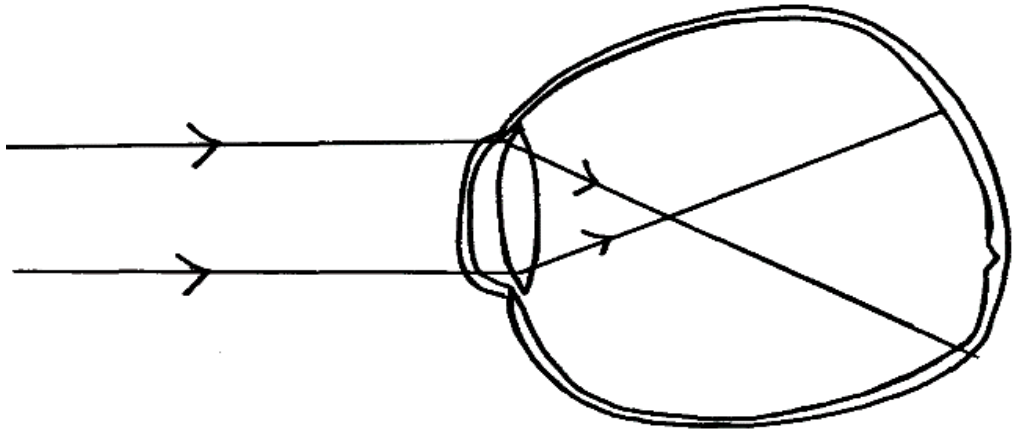
(c) Tendril intertwine around an object

29. How is the mammalian skin adapted to its functions?

30. Explain how the mammalian skin is adapted to it's functions

31. Explain the structure and functions of the human eye.

32. The diagram below shows the position of an image in a defective eye.



(a) (i) Name the defect

(ii) State the causes of the defect

(b) Explain how the defect in **a(i)** above can be corrected.

(c) State the functions of cones

(d) How are nocturnal animals adapted to seeing?

For Marking Schemes/Answers

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