

NANDI EAST DISTRICT JOINT EVALUATION TEST 2009

231/1

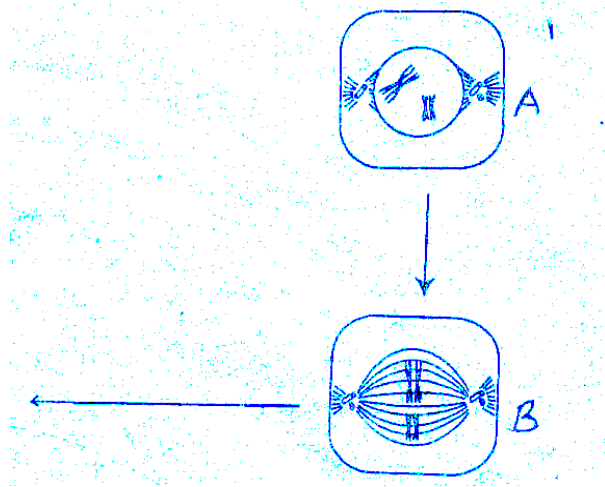
BIOLOGY

PAPER 1(THEORY)

JULY/AUGAST,2009

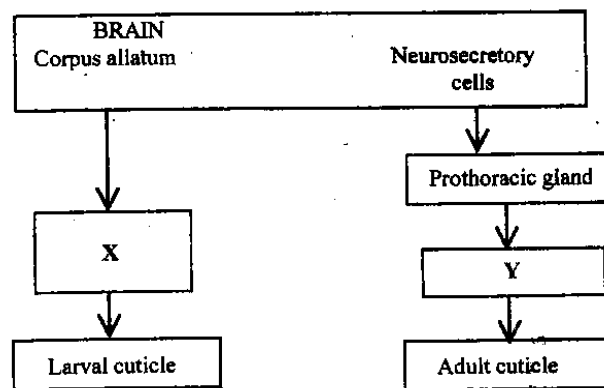
TIME: 2HOURS

- (a) The botanical name of lady's smoke flower is cardaminae pratensis what taxon does pratensis stand for. (1 mark)
- (b) What is the scientific naming system called. (1 mark)
2. Among the a biotic factors in an ecosystem, give at least two that influence adaptation in:-
- (a) The leaf
- (i) (2 marks)
- (ii) (2 marks)
3. State two homeostatic functions of the liver. (2 marks)
4. Study the diagram below and answer the questions that follow:



- (a) Name stages labeled:
- (i) A: (2 marks)
- (ii) B: (1 mark)
- (b) What is the importance of stage A in genetics (1 mark)
5. State the importance of the following features in gaseous exchange;
- (a) Cartilage in the trachea. (1 mark)
- (b) Moisture on the surface of alveoli (1 mark)

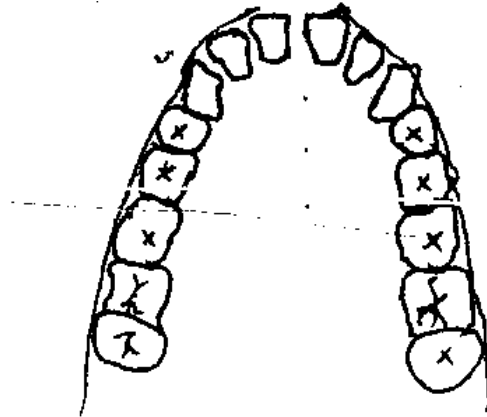
6. Name three types of cells that carry out photosynthesis (3 marks)
7. Name three features in a flower that can be used for identification of plants. (3 marks)
8. Name two substances that are:-
- (a) Allowed to pass through the placenta from the mother to the foetus. (2 marks)
- (b) Not allowed to pass through the placenta from the mother to the foetus. (2 marks)
9. (a) State the role played by vitamin K in blood clotting (1 mark)
- (b) Explain why blood clotting does not occur inside the blood vessels. (1 mark)
- (c) State **two** ways by which leucocytes protect the body against infection (2 marks)
10. (a) Give **two** examples of lipids (2 marks)
- (b) Give **one** reason why it is possible to store lipids in the tissues of organisms. (1 mark)
11. Study the chart below then answer the questions that follow:



- (a) Name the hormone labeled:
- (i) X: (2 marks)
- (ii) Y: (2 marks)
- (b) Explain why the hormone labeled X is not secreted at the adult stage (2 marks)
12. (a) Differentiate between continuous and discontinuous variation. (2 marks)
- (b) State three causes of variation in living organism (3 marks)

13. What is the difference between excretion and Egestion. (2 marks)
14. Give the functions of the following substances:
 (a) Sebum: (1 mark)
 (b) Melanin in mammals: (1 mark)
15. State three roles of DNA. (3 marks)
16. Name three components of gastric juice. (3 marks)
17. The figure below represents a structure obtained from a rabbit.
 (a) Name part J and bone L:
 part J (2 marks)
 Bone L:
 (b) (i) which bone articulates with bone L and part J (1 mark)
 (ii) Identify the type of joint formed at part J (1 mark)
18. Explain why desert animals excrete uric acid rather than ammonia (2 marks)
19. (a) Name the tissue in higher plants that is responsible for support (1 mark)
 (b) State two factors that increase the rate of transpiration (2 marks)
20. What is the effect of adrendline hormone on;-
 (i) The intercostals muscles
 (ii) Blood circulation (2 marks)
21. From the following list of organisms *virbrio Cholerae*, *Nitobacter* and *Azobacter*;
 (a) Identify the kingdom they belong. (1 mark)
 (b) Explain the economic importance of *Nitrobacter* and *Arobacter* in the environment (2 marks)
22. Explain what would happen to:-
 (a) A red blood cell if placed in a concentrated salt solution. (2 marks)
 (b) Explain why marine protozoa do not suffer the same fate as the red blood cells. (1 mark)
23. State the function of each of the following organelles;
 (a) Nucleolus:
 (b) Golgi apparatus (2 marks)

24. The diagram below shows the arrangement of teeth in the upper jaw of a human being.



- (a) Write the dental formula (1 mark)
 (b) Using the dental formula determine the total number of teeth. (1 mark)
 (c) name two nutrients which do not require digestion before they are absorbed. (2 marks)

25. An experiment was carried out on blowfly larvae as shown in the diagram below.

Lighted region	Dark region
00 00	

After 30 minutes most of the blowfly larvae moved to the dark region.

- (a) Name the type or responses being investigate. (1 mark)
 (b) What is the significance of the response to the organism? (2 marks)
26. (a) What is tissue fluid (1 mark)
 (b) What is the importance of tissue fluid? (1 mark)
 (c) Name the blood vessel with the highest concentration of;-
 (i) Glucose: (1 mark)
 (ii) Carbon (IV) oxide (1 mark)

27. Differentiate between struggle for existence and survival of the fittest.