

BIOLOGY PAPER 1

NYANDARUA COUNTY MID YEAR EXAM 2016

231/1

Answer all questions in this section in the spaces provided

1. Name the antigen that determine human blood group (2mks)

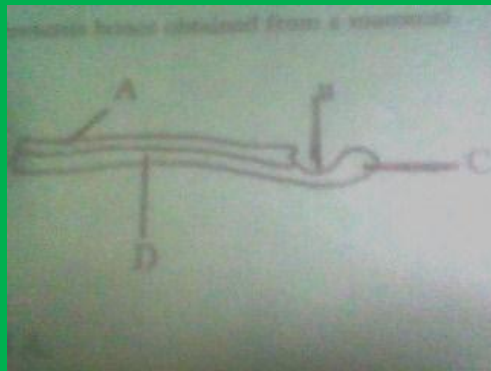
2. Name the causative agent of the following disease

a) Cholera..... (1mk)

b) Amoebic dysentery.....(1mk)

3. What is a test cross (1mk)

4. The diagram below represents bones obtained from a mammal



a) Name bone labeled A (1mk)

b) Name ;

i) The bone which articulates with the bone labeled A and D at the notch labeled B (1mk)

ii) Joint formed by three bones in b(i) above (1mk)

c) State the function of the structure labeled C (1mk)

5. Under similar conditions, a man requires more energy than a woman of the same age. Explain (2mks)

6. State two uses of a pair of forceps in biology (2mks)

7. State three differences between tropism and Natism (3mks)

8. The diagram below shows a section through a seed of a dicotyledonous



What do parts B and C develop into after germination (2mks)

9.State three adaptations of trachioles to their functions (3mks)

10.Name the organelle which carries out the following function

i)get rid of excess water in unicellular organism (1mk)

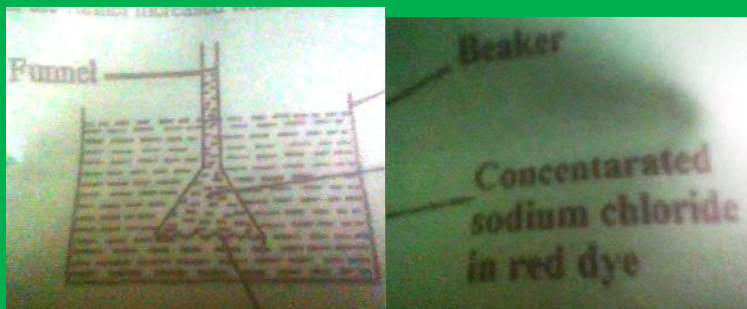
ii)destroy disease organelles (1mk)

iii)Forms secretory vesicles (1mk)

11.a)Define adaptive radiation as used in evolution (2mks)

b)Name the type of evolution that results from adaptive radiation (1mk)

12.The diagram below represents an experiment set up. The set up was left for two hours. The level of the solution in the funnel increased while the red dye was seen in the beaker



a)Identify process that led to;

i)Increase in the solution level in the funnel (1mk)

ii)appearance of red dye in the beaker (1mk)

13. Explain how the following prevents self-pollination

- i) Dioecism (1mk)
- ii) Self sterility (1mk)

14. An animal was found to have a large Bowman's capsule and a short loop of henle. Describe how these features affect amount of urine produced by this animal (4mk)

15. State three differences between diplopoda and chilopoda (3mks)

16. Name three support tissue in plants (3mks)

17. DDT is a pesticide which used to be sprayed on crops to kill insects. Run off fields could carry DDT into lakes and rivers. The chain below shows the food chain in the ecosystem where DDT was used. The numbers in bracket are concentration of DDT in tissue of the organism in parts per million

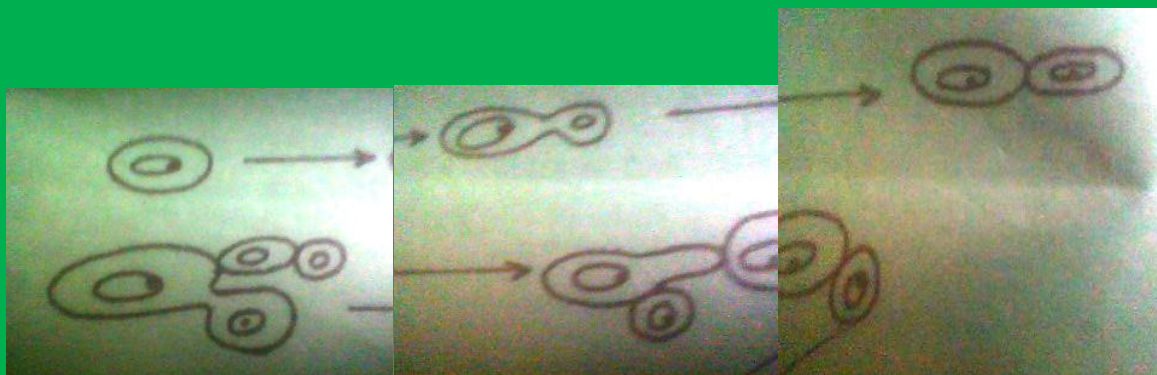
Photosynthetic(15)----->Herbivorous (510)----->Carnivorous (1530)----->Fish eating birds (13770)

- a) Fish eating died from DDT poisoning. Explain why (2mks)
- b) Many insects population became resistant to DDT. Explain why (2mks)

18. State the functions of the following parts of a light microscope

- i) Diaphragm (1mk)
- ii) Condenser (1mk)

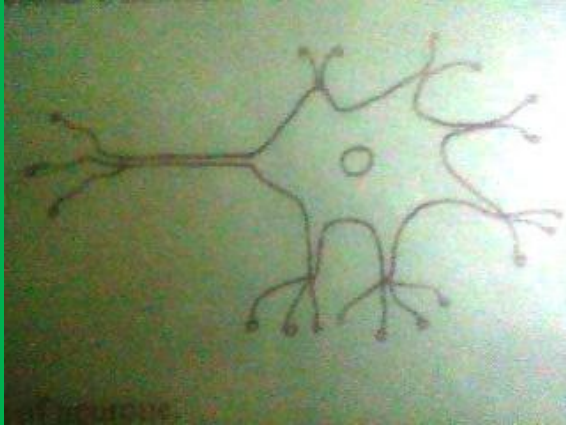
19. The diagram below represents a biological process in yeast cells



- i) Name the process occurring (1mk)
- ii) briefly explain how the process occurs in nature (3mks)

20. State two structural differences between Xylem vessels and tracheids (2mks)

21. The diagram below represents a neurone



i) Identify the type of neurone (1mk)

ii) State the function of neurone (1mk)

iii) State why the neurone is non-mylianted (1mk)

22. Describe the changes that occurs in the rib cage and diaphragm during inspiration (3mks)

23 A plant was observed to have venation and fibrous root system Name

i) Subdivision of this plant (1mk)

ii) Class to which the plant belongs (1mk)

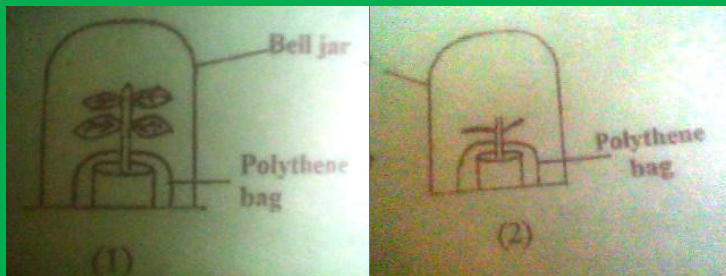
24. Explain why Darwin's theory of Natural selection is accepted as a theory in which evolution occurs

(2mks)

25. Which genetic disorder is caused by lack of a gene which causes production of Melanin (1mk)

26. Explain what happens when two animals occupy the same niche in an ecosystem (2mks)

27. The diagram below was set up to investigate a certain biological process



a) What physiological process was being investigated (1mk)

b) What observations were made in each set up 1 and 2 (2mks)

c) What was the purpose of the setup 2 (1mk)

28. Name the type skeleton found in insects (1mk)

29. Name the type of muscles found in the following parts of the body

i) Intestine (1mk)

ii) Thighs (1mk)

iii) Heart (1mk)

30.a) Name the end product of anaerobic respiration in animals (1mk)

b) State two roles of tongue in digestion (2mks)

31. Animals which have closed circulatory system are more active than those with open circulatory system. Explain (2mks)