

7. During Urine formation, Ultra filtration takes place at;
- Bowman's Capsule and Glomerulus
 - Proximal convoluted tubule
 - Nephron
 - Kidney
8. In the mammalian skin, the position of the hair is affected by;
- Nerve endings in the skin
 - Hair follicle
 - Elastic connective tissue
 - Erector pilli muscles
9. When S.5 and S.6 students struggled for food; a s.4 student correctly described this type of competition as ;
- Interspecific competition
 - Struggle for the fittest
 - Interclass competition
 - Intraspecific completion
10. To determine the population size of fish in a water pond; a students captured 30 tilapia, marked them and released them. After 2 weeks, he captured again and found out that of 30 tilapia captures, 6 had been marked, he concluded that the population of tilapia in that pond was
- 10 tilapia
 - 54 tilapia
 - 150 tilapia
 - 66 tilapia
11. Which of the following sets of joints consists of only the hinge type?
- Hip, Wrist and Elbow
 - Neck, shoulder and Elbow
 - Elbow, Knee and finger points
 - Knee, Wrist and ankle
12. The following conditions are all result of deficiency of vitamins of the B group except;
- Night blindness
 - Beriberi
 - Pellagra
 - Pernicious anemia
13. A man of blood group AB marries a woman of blood group O. what would be the possible blood groups of their children?
- O and AB
 - A only
 - AB
 - A and B
14. Which one of the following types of a fruits is a pineapple?
- Drupe
 - Multiple fruit
 - Indehiscent fruit
 - Berry

- A. Seed B. Flower C. Fruit D. Short Apex

22. Which one of the following organisms reproduce by Budding?

- A. Yeast B. Amoeba C. Spirogyra D. Mucor

23. Which of the following represents a reflex arc?

- A. Receptor → Motor neuron → C.N.S → Sensory neuron → Effectors
 B. Receptors → Sensory neuron → Effectors → C.N.S → Motor neuron
 C. Receptor → C.N.S → Motor neuron → Sensory neuron → Effectors
 D. Receptor → Sensory neuron → C.N.S → Motor neuron → Effectors

24. The milk teeth in the human consists of;

- A. Incisors only
 B. Incisors and canines
 C. Incisors and premolars
 D. Incisors, Canines and premolars

25. Lack of Iodine in the human diet cause;

- A. Anaemia B. Scurvy C. Goitre D. Rickets

26. Monocotyledonous plants differ from dicotyledonous plants because they have;

- A. Network venation C. Leaf sheath
 B. Prominent tap root D. Leaf petiole

27. Enzymes are said to be specific in nature because they;

- A. Are proteins
 B. Act in a particular PH
 C. Act on one kind of substance
 D. Remain unchanged at the end of reactions

28. The figure below illustrate five forces acting on a gliding bird

Which one of the forces illustrated tends to resist the birds forward motion?

- A. M B. P C. Q D. N

29. The best explanation for panting of an athlete immediately after a race is to;

- A. Allow fast flow of blood to the lungs
- B. Take in more oxygen
- C. Allow fast blood flow from the muscles
- D. Restore the lost energy

30. The figure below shows the structure of a living organism

To which phylum of plants does it belong?

- A. Phylum Bryophyta
- B. Phylum filicinophyta
- C. Phylum Gymnospermato phyta
- D. Phylum Angiospermato phyta

SECTION B (40 MARKS)

31. The table below shows the changes in mass of starch and protein in a typical pea seed during the first 20 days of germination

Food substance in the seed	Days of germination					
	0	4	8	12	16	20
Starch (Mg)	60	56	32	8	5	4
Protein (Mg)	28	21	11	5	3	2

(a) Using the same axes, plot a graph to show the changes in mass of starch and protein during the 1st 20 days of germination of the seed on the graph paper provided. (8mks)

(b) How are the changes in mass of starch and protein

- (i) Similar? (2mks)

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- (ii) Different? (2mks)

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(c) Explain why the mass of starch and proteins change in the germinating seed. In each case, state the reactions that result into the changes. (4mks)

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(d) State two ways in which the products from each of starch and proteins may be used in the germinating seed

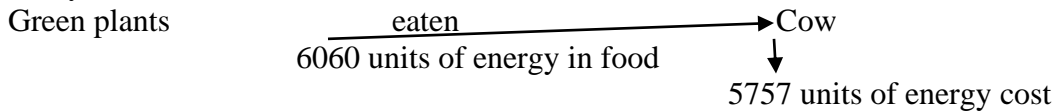
(i) Starch (2mks)

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(ii) Proteins (2mks)

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32. In a food chain, when energy is transferred from one trophic level to another, some of it is lost. Figure below should such a transfer of energy in and out of a cow in a year.



(a) Name the trophic levels shown in the figure. (2mks)

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(b) State two ways in which energy is lost from the cow. (1mk)

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(c) Calculate the percentage of energy taken in during the year, which is retained by the cow. (2mks)

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(d) In proportion to its body a calf uses more energy to maintain its body temperature than a cow. Explain why this is so. (3mks)

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(e) In the recycling of materials, how can the energy within the cow be made available to plants. (2mks)

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33. (a) What is cross pollination? (2mks)

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(b) Mention any four characteristics features of flowers that promote cross pollination and in each case give an example of a plant whose flowers the characteristics features. (6mks)

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(c) The figure below illustrates a process that takes place in a flower

(i) Name the parts indicated. (2mks)

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M.....

N.....

P.....

(ii) Briefly the events that lead to double fertilization in the flower above. (5mks)

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SECTION C (30 MARKS)

34. (a) What is the behavioral difference between tactic response and tropic response? (2mks)

(b) State three reasons why living organisms respond to stimuli. (3mks)

(c) Describe an experiment that would be carried out to investigate the response of an earth worm to light. (10mks)

35. (a) Differentiate transpiration and guttation. (2mks)

(b) Explain four factors that affect the rate of transpiration in land plants and explain how each affects the rate of transpiration. (10mks)

(c) State the advantages of transpiration to a land plant. (3mks)

36. (a) Explain the role of a skeleton in a mammalian body. (10mks)

(b) Describe the events that would lead to the human arm to bend and straighten. (5mks)

37. (a) How does the body respond to

(i) Extreme coldness (5mks)

(ii) High glucose level (5mks)

(iii) Very low amount of water in the body. (5mks)

***END
BE BLESSED***