

FORM

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G



SECTION B (54 Marks)

3. Biology should not be taken as an optional subject at O'level because;

- i. It helps us to understand ourselves better
- ii. It helps us to understand and take care of our environment
- iii. It helps to understand and take care of other organisms.
- iv. It helps us to understand the causes, symbols, mode of transmission and treatment of diseases.
- v. It helps us to get professional skills in medicine, nursing and pharmacy
- vi. It helps us to improve varieties of plants and animals

Any six correct points@1.5 marks Total 09 marks

4. (a) Factors affecting the contents of water and salts in the human body.

- i. Weather – During cold weather, there is no sweating, as a result the blood osmotic pressure (contraction) decreases due to high rate of water retention, following this the frequency of urination increases to remove any extra (excess) water from the body. Failure of the pituitary gland to produce antidiuretic hormone on the other hand, causes kidney causing shortage of water into the body. **(06mark)**

(b) (i) Antidiuretic hormone **1.5marks**

(ii) Aldosterone hormone **1.5marks**

5.(i) Reflex action **01mark**

(ii) Reflex arc **01 mark**

(iii) A well labeled diagram to show reflex arc **03 marks**

- During hot weather, much water is lost from the body through sweating making an increase in blood osmotic pressure, later this causes an



wall pressure which when they reach at equilibrium the cell becomes turgid and does not burst. **(03 marks)**

(b) The effect in a recipient's blood when he has been transfused an incompatible blood from the donor

- The recipient blood undergo agglutination which leads to death

(03 marks)

(c) Three precautions to be taken during blood transfusion

- Blood transfusion should be done only when necessary
- The blood from the donor should be well screen on compatibility
- The donor's blood should be free from any infections
- Transfused blood should be kept in a special bag and stored in refrigerator for not more than 21 days
- Blood transfusion should be done by a qualified person

(01 Mark @ = 03 marks)

7. (a) The causes of physical deterioration of the human body include;

- (i) The quality and quantity of foods taken
- (ii) Diseases
- (iii) Stress
- (iv) Genetic factors.

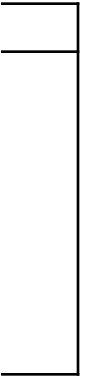
Any three @1mark (03marks)

(b) (i) The seed absorbs water through micropyle causing it to swell **(02%)**

(ii) The water absorbed by the seed softens the seed testa and activities enzymes stored in the cotyledons **(02marks)**

(iii) The stored foods are digested to their final products and later carbohydrates in the form of glucose are oxidized to release energy required for the emergence of radicle and plumule.

(02marks)



(c) Bean seeds placed in a closed bottle containing cold water

- The seeds did not germinate due to lack of oxygen for aerobic respiration and temperatures for activation of enzymes **(02 marks)**

SECTION C (30 marks)

9. Birth control refers to any method, medicine or device used to prevent pregnancy. **(01mark)**

a. Birth control methods which prevent union of gametes

(i) Calendar (rhythm) method, This involves partners to abstain from sexual intercourse during fertile days **(02marks)**

(ii) Coitus interruption, This involves a man to withdraw(remove) penis from the vagina before **(02marks)**

(iii) The use of condoms, The condoms are put on the penis to trap sperms and avoid them from being deposited into the vagina.

(02marks)

(iv) Sterilization, This involves cutting the sperm ducts in man (vasectomy) and on duct in woman (tuba ligation) to avoid gametes from coming into contact **(02marks)**

OR any other correct 4 points

Methods which suppress the formation and or release of gametes

- i. The use of implants, This involves implantation of a substance with hormones (estrogen and progesterone) hormones which prohibit the follicles in ovaries from producing eggs **(02marks)**

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storage of minerals eg calcium.

- iii. It helps to give the body its shape and support.
- iv. It provides the surface area for attachment of muscles which facilitate movement. (@ **3 = 12 marks**)

Conclusion:

Any relevant conclusion (0 **1mark**)

(Total 15 marks)

11. **Introduction**

Bacteria are single celled organisms which are found almost everywhere on the earth's surface. (any reasonable introduction)
(**01 marks**)

Main body:

Reasons to why all bacteria should not be eliminated

(Importance of bacteria)

- a) Some bacteria are used in making antibiotics eg penicillium
- b) Bacteria are used in making biogas
- c) Some bacteria are used in nitrogen fixation especially those living in nodules of leguminous plants
- d) Some bacteria live in the large intestine of man and help in production of vitamin K.
- e) Some bacteria live in the appendix of herbivorous organisms and help them in digestion of cellulose.

