

ITEM 2

(a) Botanists and zoologists claim that plants and animals depend on each other. Zoologists noted that animals depend on food made by plants but botanists did not explain how plants depend on animals. As a senior three student; explain briefly how;

(i) Plants obtain energy for making their own food. (02marks)

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(ii) Plants depend on animals for their survival. (02marks)

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(b) Apart from the food which animals obtain from plants, describe different ways how the process by which plants make their own food is important in nature. (02marks)

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(c) State how animals obtain energy from plants. (02marks)

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ITEM 3

Sarah, a 16-year-old high school student, is very active in sports. She plays basketball for the school team and practices daily. Recently, a friend pointed out that Sarah seems thin and might be underweight. Sarah decides to calculate her BMI. Her height is 165 centimeters (cm) and her weight is 52 kilograms (kg).

TASK

a) Calculate Sarah's Body Mass Index (BMI). (04 scores)

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b) According to the BMI chart, what category does Sarah's BMI fall under? (Underweight, Normal weight, Overweight, Obese) (01 score)

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c) Is BMI an ideal measure of health for someone like Sarah, who is young and very active? Explain your answer. (02 scores)

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d) What other factors besides BMI might be important to consider when assessing Sarah's health? (03 marks)

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SECTION B

Item 4.

In preparation for an inter-house competition, Chesang, a 40 kg female athlete ate a meal containing 470 g of carbohydrates in the morning. She believes the meal will help her perform better during the competition. However, her young brother does not seem to understand how the meal will contribute to Chesang's success.

Chesang finally won the competition but experienced muscle cramps. She rested for 20 minutes; returned home walking but the brother wondered how she still had the strength to walk home after the competition.

[*The recommended daily carbohydrate intake of a 40 kg female athlete is (280 – 480 g)*]

Task

Explain to Chesang's brother the processes that the meal she ate went through to enable her win the race, be able to come back home and how her body regained the normal state (20 scores)

ITEM 3.

Otim a S.2 student ate a meal consisting of an egg and cooked cassava during breakfast. After eating his breakfast, Otim went back to class for his mid-morning lessons. As a student who has acquired knowledge about how animals obtain their food, ingest it ,digest it and final products of digestion absorbed help Otim understand how the meal he ate was broken down in the body until when the final products of digestion were absorbed. (20 scores)

END

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