ASSIGNMENT 1

1. **Giving two examples for each, define the following terms:**
   1. Food; Refers to any nutritious substance that living organisms eat to sustain life and growth. Examples of food substances include; potatoes, bread , fruits and vegetables, meat, eggs e.t.c
   2. Nutrients: Refers to food substances that provide nourishment that is essential for life and growth. Examples include carbohydrates, vitamins, minerals and proteins.
   3. Nutrition: Refers to the intake of food in relation to body’s dietary needs. (WHO,2019). Good nutrition is associated with good health while poor nutrition leads to weak immune system that result to diseases. Indicators of good nutrition include: Body mass index, weight for height Z- score
2. **Distinguish between dispensable and indispensable nutrients**

Indespisible nutrients refers to nutrients that cannot be synthesized by the body at a rate that matches the demand and hence must be supplied by the diet while dispensable nutrients can be produced by the body insuffient qualities and hence are not required in the diet.

1. **Suggest a reason why protein deficiency/inadequacy would interfere with the process of digestion.**

Proteins provide the building blocks for enzymes that are used in the process of digestion. Proteins also keeps the digestive system healthy and this supports the process of digestion by preventing conditions such as diarrhea.

1. **Giving specific examples, explain what you understand by the term enzyme specificity.**

Enzyme specificity refers to the nature of enzymes where they are adapted to catalyze particular reactions and not any other. There are four types of enzyme specificity:

* Absolute specificity: An enzyme can catalyze only one reactions
* Group specificity: The enzyme will catalyze reactions for molecules in a certain functional group.
* Linkage specificity: The enzyme will act on a particular chemical bond regardless of the rest of the mollecule’s structure.
* Stereochemical specificity: the Enzyme will act on a particular isomer.

1. **Explain what you understand by the term antinutrients.**

Antinutrients refers to compounds found in plants that reduces the ability of the body to absorb essential nutrients.

1. **Explain three functions of bile in the digestion of lipids.**

The bile plays a great role in digestion of lipids through emulsification of lipid aggregates and solubilization and transport of lipids. In emulsification of lipid aggregates bile has a detergent like action that breaks lipids into microscopic particles that have high surface area hence making it easy for the lipase enzyme to catalyze their digestion.

1. **Explain how proteins differ structurally from carbohydrates and lipids.**

Proteins are made of nitrogen, hydrogen, oxygen and sulfur and are used for structural development while carbohydrates are made of hydrogen, oxygen and carbon and are used to provide energy.

References

World Health Organization, 2019, Health topics; Nutrition, Retrieved from; <https://www.who.int/topics/nutrition/en/>