**Formative Assessment**  Name: **ANSWER KEY**
BIOLOGY: The Digestive System (Difficult) Time: 15 minutes

**Question 1:** Decreased secretions from the gallbladder would cause a/an: **(1 mark)**

1. **Decreased absorption of simple fats in the small intestine.**
2. Increase in peristalsis of the digestive tract.
3. Decreased production of proteins.
4. Reduction in digestive enzyme release from the pancreas.

**Question 2:** Which of the following chemical changes would take place in the stomach? **(1 mark)**

1. **Breakdown of proteins by protease enzyme**
2. Breakdown of proteins by hydrochloric acid
3. Breakdown of carbohydrates by amylase enzymes
4. All of the above

**Question 3:** What structure(s) of the small intestine help speed up the rate of absorption of nutrients into the blood? **(1 mark)**

1. Cillia
2. **Villi & microvilli**
3. Flagella
4. Enzymes

**Question 4:** Refer to the diagram Fig 2, which shows part of the human digestive system.

Identify the structure that stores substances involved in mechanical fat digestion. **(1 mark)**

1. 2
2. **3**
3. 4
4. 5

**Question 5:** Carbohydrates, proteins and fats are all digested in different parts of the body. Which row in the following table shows where each of these three groups are **first** broken down? **(1 mark)**

|  |  |  |  |
| --- | --- | --- | --- |
|   | **carbohydrate** | **protein** | **fats** |
| (a) | mouth | small intestine | stomach |
| **(b)** | **mouth** | **stomach** | **small intestine** |
| (c) | small intestine | stomach | small intestine |
| (d) | stomach | mouth | small intestine |

**Question 6:** Peristalsis moves food material. **(1 mark)**

1. in the stomach and small intestines only.
2. in the stomach and intestines only
3. **from the pharynx to the anal canal**
4. in the oesophagus and stomach only.

**Question 7:** State **two** main functions of the large intestine. **(2 marks)**

|  |
| --- |
| 1. **Absorption of water**
 |
| 1. **Absorption of electrolytes (sodium, potassium)** or **Formation & storage of faeces**
 |

 **Question 8:** Digestion of food can occur both mechanically and chemically.

1. Describe two examples of mechanical digestion by completing the table below. **(4 marks)**

|  |  |
| --- | --- |
| **Mechanical Digestion Process** | **Description** |
| **ANY TWO:** * Chewing / mastication
* Peristalsis
* Churning
* Emulsification
 | **ANY MATCHING TWO:** * Teeth, tongue & mouth break food into smaller pieces by grinding (food becomes a bolus)
* Movement of food through digestive tract breaks it into segments.
* Stomach breaks down food into smaller pieces by mixing (bolus becomes chyme)
* Bile breaks down large fat droplets into smaller fat droplets.
 |

1. Complete the table below summarising the enzymes involved in the chemical breakdown of nutrients. **(3 marks)**

|  |  |
| --- | --- |
| **Chemical Digestion Process** | **Specific Enzyme** |
| Chemical break down of carbohydrates | **Amylase** |
| Chemical break down of proteins | **Protease** |
| Chemical break down of fats | **Lipase** |