

# Nutrition and the Human Digestive System

## *Nutrisi dan Sistem Pencernaan Manusia*

### PAPER 1

- 1 The following information is about process X in the human digestive system.  
*Maklumat berikut adalah tentang proses X dalam sistem pencernaan manusia.*

- Physical digestion.  
*Pencernaan fizikal.*
- Rhythmic contraction and relaxation of muscle.  
*Pengelutan dan pengenduran otot secara beritma.*
- Pushes the bolus through the oesophagus until the stomach.  
*Menolak bolus melalui esofagus sehingga ke perut.*

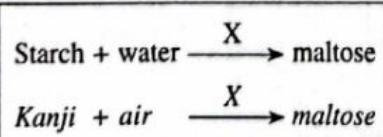
What is process X?

*Apakah proses X?*

- A Peristalsis/*Peristalsis*  
B Homeostasis/*Homeostasis*  
C Hydrolysis/*Hidrolisis*

- 2 The equation below shows the process of carbohydrate digestion in the mouth.

*Persamaan di bawah menunjukkan proses pencernaan karbohidrat di dalam mulut.*



What is X?

*Apakah X?*

- A Maltase/*Maltase*  
B Amylase/*Amilase*  
C Lactase/*Laktase*  
D Lipase/*Lipase*

- 3 The diagram below shows an internal organ in the human body.  
*Rajah di bawah menunjukkan satu organ dalaman di dalam badan manusia.*



What nutrient is digested in this organ?  
*Nutrien apakah yang dicernakan di dalam organ ini?*

- A Carbohydrate/*Karbohidrat*  
B Lipid/*Lemak*  
C Protein/*Protein*  
D Vitamin/*Vitamin*

- 4 What are the functions of hydrochloric acid in the stomach?

*Apakah fungsi asid hidroklorik di dalam perut?*

- I Prepares a suitable pH for pepsin to act  
*Menyediakan pH yang sesuai untuk pepsin bertindak*
- II Stops digestion of carbohydrate  
*Menghentikan pencernaan karbohidrat*
- III Activates the digestion of lipid  
*Mengaktifkan pencernaan lipid*
- IV Activates the digestion of carbohydrate  
*Mengaktifkan pencernaan karbohidrat*

- A I and II  
*I dan II*
- B II and III  
*II dan III*
- C III and IV  
*III dan IV*
- D I and IV  
*I dan IV*

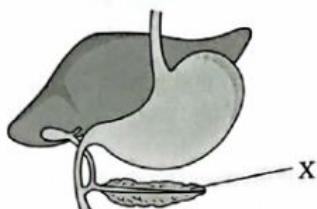
- 5 Which equations shows the enzymatic reaction in the small intestine?

*Persamaan yang manakah menunjukkan tindak balas enzim di dalam usus kecil?*

- A Starch + water  $\xrightarrow{\text{Amylase}}$  Sucrose  
 $\text{Kanji} + \text{air} \xrightarrow{\text{Amilase}}$  Sukrosa
- B Protein + water  $\xrightarrow{\text{Pepsin}}$  Polypeptide  
 $\text{Protein} + \text{air} \xrightarrow{\text{Pepsin}}$  Polipeptida
- C Lactose + water  $\xrightarrow{\text{Lactase}}$  Fructose  
 $\text{Laktosa} + \text{air} \xrightarrow{\text{Laktase}}$  Fruktosa
- D Lactose + water  $\xrightarrow{\text{Lactase}}$  Glucose + Galactose  
 $\text{Laktosa} + \text{air} \xrightarrow{\text{Laktase}}$  Glukosa + Galaktosa

- 6 The diagram below shows a part of the human **digestive system**.

*Rajah di bawah menunjukkan sebahagian daripada sistem pencernaan manusia.*



What will happen if X is not working?

*Apakah yang akan berlaku jika X tidak berfungsi?*

- A More toxin will be removed  
*Lebih banyak toksin akan disingkirkan*
- B Malnutrition  
*Kekurangan nutrisi*
- C Production of glucose increases  
*Penghasilan glukosa meningkat*
- D Production of pepsin increases  
*Penghasilan pepsin meningkat*

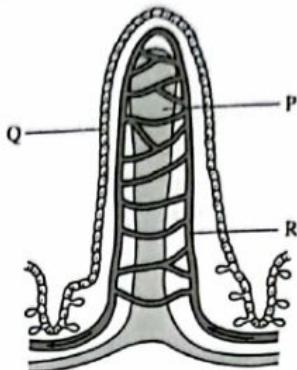
- 7 What are the adaptations of the villus for absorption of digested food?

*Apakah penyesuaian vilus untuk penyerapan makanan yang dicerna?*

- I Elastic wall  
*Dinding yang elastik*
- II Long villus  
*Vilus yang panjang*
- III Thin epithelial layer  
*Lapisan epitelium yang nipis*
- IV Goblet cells secrete mucus  
*Sel goblet merembeskan mukus*

- A I and III/ dan II  
B II and III/ dan III  
C III and IV/ dan IV  
D I and IV/ dan IV

- 8 The diagram below shows a structure of villus.  
*Rajah di bawah menunjukkan struktur vilus.*



What are P, Q and R?

*Apakah P, Q dan R?*

	P	Q	R
A	Epithelial cell <i>Sel epitelium</i>	Blood capillary <i>Kapilari darah</i>	Lacteal <i>Lakteal</i>
B	Blood capillary <i>Kapilari darah</i>	Lymphatic vessel <i>Salur limfa</i>	Lacteal <i>Lakteal</i>
C	Lacteal <i>Lakteal</i>	Epithelial cell <i>Sel epitelium</i>	Blood capillary <i>Kapilari darah</i>
D	Lacteal <i>Lakteal</i>	Blood capillary <i>Kapilari darah</i>	Epithelial cell <i>Sel epitelium</i>

- 9 What nutrient can be found in the blood capillary of the villus?

*Nutrien apakah yang ditemui di dalam kapilari darah vilus?*

- A Vitamin A  
B Vitamin D  
C Vitamin E  
D Vitamin C