Past year SPM (2015-2018)

Berikut merupakan sepuluh soalan objektif berkaitan Bab 9Nutrisi dan Sistem Pencernaan Manusia.

15 Diagram 9.1 shows two classes of food.
Rajah 9.1 menunjukkan dua kelas makanan.

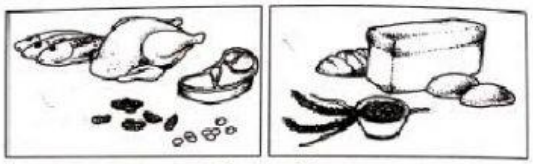

Diagram 9.1
Rajah 9.1

Diagram 9.2 shows the human digestive system.
Rajah 9.2 menunjukkan sistem pencernaan manusia.

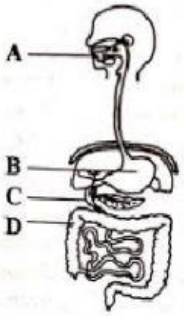

Diagram 9.2
Rajah 9.2

Which part **A**, **B**, **C** or **D** digests both the classes of food shown in Diagram 9.1?
Antara bahagian **A**, **B**, **C** *dan* **D** *yang manakah mencernakan kedua-dua kelas makanan yang ditunjukkan dalam Rajah 9.1?*

17 Diagram 11 shows one of the internal organ, X in human body.
Rajah 11 menunjukkan satu organ dalaman, X dalam badan manusia.

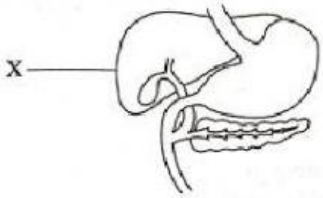

Diagram 11
Rajah 11

Which activities will be affected if organ X is damaged?
Aktiviti-aktiviti manakah yang akan terjejas jika organ X rosak?

I Excess glucose cannot be converted into glycogen
Glukosa berlebihan tidak boleh ditukarkan kepada glikogen

II More toxin will be removed
Lebih banyak toksin akan disingkirkan

III Deamination does not occur
Pendeaminan tidak berlaku

IV Insulin cannot be produced
Insulin tidak boleh dihasilkan

A I and II
I *dan* II

B I and III
I *dan* III

C II and IV
II *dan* IV

D III and IV
III *dan* IV

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16 Diagram 8 shows a physical process in digestion of lipids which is aided by substance **X**.
Rajah 8 menunjukkan satu proses fizikal dalam pencernaan lipid yang dibantu oleh bahan **X**.

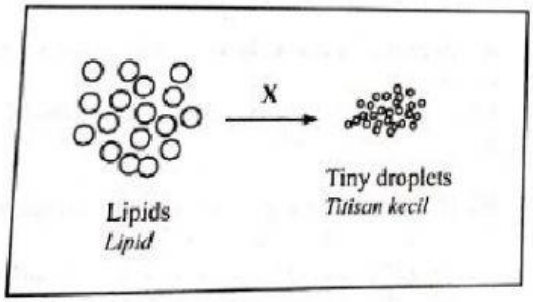

Diagram 8
Rajah 8

What is **X** and its importance?
Apakah **X** *dan kepentingannya?*

	X	Importance *Kepentingan*
A	Bile salt *Garam hempedu*	Creates acidic medium *Menyediakan medium berasid*
B	Bile salt *Garam hempedu*	Reduces surface tension *Mengurangkan ketegangan permukaan*
C	Hydrochloric acid *Asid hidroklorik*	Creates acidic medium *Menyediakan medium berasid*
D	Hydrochloric acid *Asid hidroklorik*	Reduces surface tension *Mengurangkan ketegangan permukaan*

19 Which equation shows the enzymatic reaction in stomach?
Persamaan yang manakah menunjukkan tindak balas enzim dalam perut?

A Starch (*Kanji*) + Water (*Air*) $\xrightarrow[\text{Amilase}]{\text{Amylase}}$ Maltose (*Maltosa*)

B Protein (*Protein*) + Water (*Air*) $\xrightarrow[\text{Pepsin}]{\text{Pepsin}}$ Polypeptide (*Polipeptida*)

C Fat (*Lemak*) + Water (*Air*) $\xrightarrow[\text{Lipase}]{\text{Lipase}}$ Fatty acids (*Asid lemak*) + Glycerol (*Gliserol*)

D Lactose (*Laktosa*) + Water (*Air*) $\xrightarrow[\text{Laktase}]{\text{Lactase}}$ Glucose (*Glukosa*) + Galactose (*Galaktosa*)

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19 Diagram 12 shows a human digestive system.
Rajah 12 menunjukkan suatu sistem pencernaan manusia.

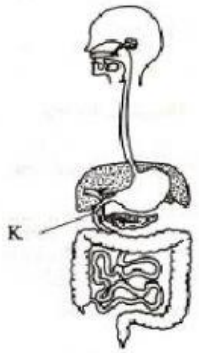

Diagram 12
Rajah 12

What is the effect towards the individual if a part of K is removed because of a disease?
Apakah kesan terhadap individu jika sebahagian K dibuang kerana suatu penyakit?

A More bile is secreted
Lebih banyak hempedu dirembeskan

B Less pepsin is secreted
Kurang pepsin dirembeskan

C Less lipid is digested
Kurang lipid dicernakan

D More protein is digested
Lebih protein dicernakan

7 Which of the following represents the sequence for the complete hydrolysis of protein?
Antara berikut, yang manakah mewakili urutan hidrolisis protein yang lengkap?

A Protein ⟶ Dipeptide ⟶ Amino acid ⟶ Polypeptide
Protein ⟶ Dipeptida ⟶ Asid amino ⟶ Polipeptida

B Protein ⟶ Polypeptide ⟶ Amino acid ⟶ Peptide
Protein ⟶ Polipeptida ⟶ Asid amino ⟶ Peptida

C Protein ⟶ Dipeptide ⟶ Polypeptide ⟶ Amino acid
Protein ⟶ Dipeptida ⟶ Polipeptida ⟶ Asid amino

D Protein ⟶ Polypeptide ⟶ Dipeptide ⟶ Amino acid
Protein ⟶ Polipeptida ⟶ Dipeptida ⟶ Asid amino

20 Diagram 13 shows the stages of food digestion along the human alimentary canal.
Rajah 13 menunjukkan peringkat pencernaan makanan di sepanjang salur alimentari manusia.

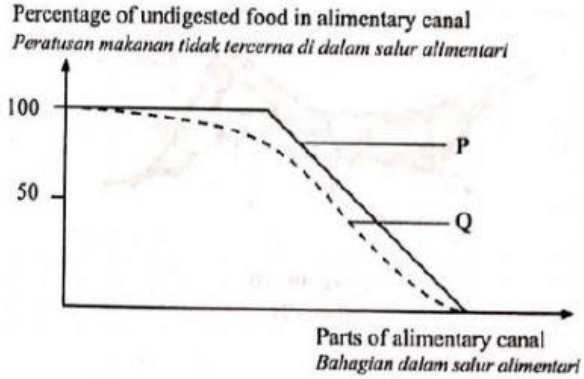

Diagram 13
Rajah 13

What are **P** and **Q**?
Apakah P dan Q?

	P	Q
A	Protein *Protein*	Starch *Kanji*
B	Fat *Lemak*	Protein *Protein*
C	Starch *Kanji*	Fat *Lemak*
D	Starch *Kanji*	Protein *Protein*

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13 Table 1 shows food classes **P** and **Q** in different types of meat.
Jadual 1 menunjukkan kelas makanan **P** *dan* **Q** *dalam jenis daging yang berbeza.*

Type of meat *Jenis daging*	Food class P (%) *Kelas makanan P (%)*	Food class Q (%) *Kelas makanan Q (%)*
Chicken *Ayam*	9.0	18.0
Mutton *Kambing*	19.6	18.7
Rabbit *Arnab*	3.8	20.7
Fish *Ikan*	0.7	17.4

Table 1
Jadual 1

What represent food classes **P** and **Q**?
Apakah yang mewakili kelas makanan **P** *dan* **Q**?

	Food class P *Kelas makanan P*	Food class Q *Kelas makanan Q*
A	Lipid *Lipid*	Carbohydrate *Karbohidrat*
B	Protein *Protein*	Lipid *Lipid*
C	Lipid *Lipid*	Protein *Protein*
D	Carbohydrate *Karbohidrat*	Protein *Protein*

14 Diagram 10 shows a structure of villus.
Rajah 10 menunjukkan struktur vilus.

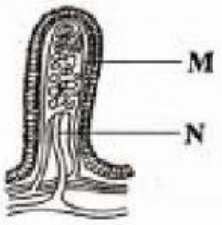

Diagram 10
Rajah 10

What digested substance can be transported by structure **M** and **N**?
Apakah bahan tercerna yang dapat diangkut oleh struktur **M** *dan struktur* **N**?

	M	N
A	Amino acid *Asid amino*	Vitamin C *Vitamin C*
B	Fat *Lemak*	Protein *Protein*
C	Glucose *Glukosa*	Glycerol *Gliserol*
D	Fatty acids *Asid lemak*	Vitamin A *Vitamin A*

15 Diagram 11 shows a part of human digestive system.
Rajah 11 menunjukkan sebahagian sistem pencernaan manusia.

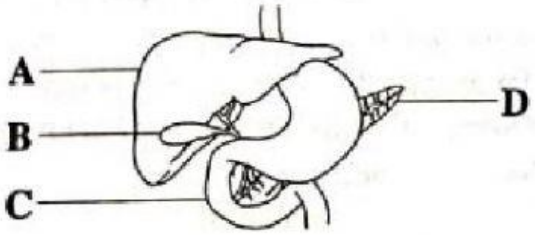

Diagram 11
Rajah 11

Which of the following structures **A**, **B**, **C** or **D** produces bile?
Antara struktur **A**, **B**, **C** *dan* **D** *yang manakah menghasilkan hempedu?*

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