

Rangsangan dan Gerak Balas

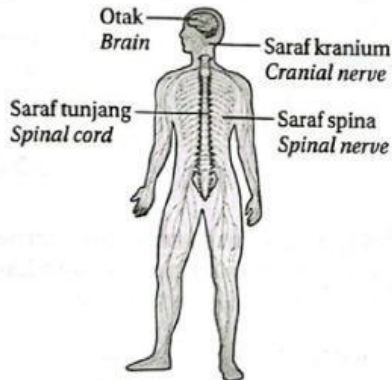
Stimuli and Responses

Bahagian A / Section A

1.1 Sistem Saraf Manusia

Human Nervous System

1 Rajah 1 menunjukkan sistem saraf manusia.
Diagram 1 shows the human nervous system.



Rajah 1 / Diagram 1

Berdasarkan Rajah 1, apakah komponen bagi sistem saraf pusat?

Based on Diagram 1, what are the components for the central nervous system?

- A Otak dan saraf spina
Brain and spinal nerves
- B Otak dan saraf kranium
Brain and cranial nerves
- C Otak dan saraf tunjang
Brain and spinal cord
- D Saraf kranium dan saraf spina
Cranial nerves and spinal nerves

TP1 BT ms. 4

2 Pilih urutan aliran impuls yang betul dalam tindakan terkawal.

Choose the correct pathway of impulses in a voluntary action.

- A Rangsangan → Afektor → Otak → Efektor → Gerak balas
Stimulus → Affecter → Brain → Effector → Response
- B Rangsangan → Efektor → Otak → Afektor → Gerak balas
Stimulus → Effector → Brain → Affecter → Response

C Reseptor → Rangsangan → Sistem saraf pusat → Efektor → Sistem saraf periferi
Receptor → Stimulus → Central nervous system → Effector → Peripheral nervous system

D Reseptor → Rangsangan → Sistem saraf pusat → Sistem saraf periferi → Efektor
Receptor → Stimulus → Central nervous system → Peripheral nervous system → Effector

TP2 BT ms. 6

3 Antara tindakan berikut, yang manakah merupakan tindakan luar kawal?

Which of the following is an involuntary action?

- A Berlari
Running
- B Bercakap
Speaking
- C Bersenam
Exercising
- D Peristalsis
Peristalsis

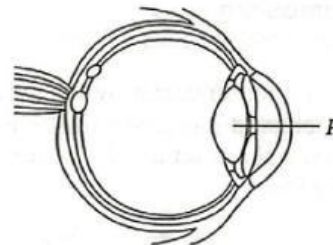
TP2 BT ms. 8

1.2 Rangsangan dan Gerak Balas dalam Manusia

Stimuli and Responses in Humans

4 Rajah 2 menunjukkan keratan rentas bagi mata manusia.

Diagram 2 shows the cross section of human eye.



Rajah 2 / Diagram 2

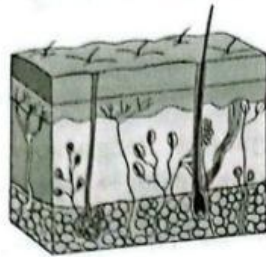
Apakah fungsi struktur yang berlabel P?

What is the function of the structure labelled P?

- A Mengawal kuantiti cahaya yang masuk ke dalam mata
Controls the quantity of light entering the eyes
- B Memegang kanta mata pada kedudukannya
Hold the eye lens in its position
- C Memfokuskan cahaya ke retina
Focuses light onto the retina
- D Mengawal saiz pupil
Controls the size of pupil

TP2 BT ms. 12

- 5 **ARAS S** Rajah 3 menunjukkan keratan rentas bahagian kulit manusia.
Diagram 3 shows the cross-section of human skin.



Rajah 3/ Diagram 3

Bagaimanakah kulit dapat membantu orang buta untuk menjalani kehidupan seharian mereka?

How does skin help blind people to lead their life?

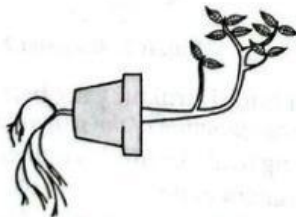
- A Kulit mempunyai reseptor sentuhan yang bertindak seperti deria penglihatan bagi orang buta
The skin has touch receptors that act like the sense of sight for blind people
- B Kulit dapat melindungi orang buta daripada dijangkiti penyakit
The skin can protect blind people from infection
- C Kulit orang buta mempunyai lebih daripada lima jenis reseptor
The skin of blind people has more than five types of receptors
- D Kulit orang buta lebih tebal daripada orang lain/
The skin of blind people is thicker than other people

TP3 BT.ms.19

1.3 Rangsangan dan Gerak Balas dalam Tumbuhan

Stimuli and Responses in Plants

- 6 **ARAS R** Rajah 4 menunjukkan sebuah pasu terbalik yang mengandungi anak pokok cili.
Diagram 4 shows an upside down pot containing a chilli plant.



Rajah 4/ Diagram 4

Anak pokok cili ini tumbuh dengan sihat walaupun pasu itu dalam kedudukan terbalik. Apakah gerak balas yang ditunjukkan oleh pucuk dan akar anak pokok cili ini?

The chilli plant is growing healthily even though the pot is upside down. What is the response shown by the shoots and roots of the chilli plant?

	Pucuk/Shoot	Akar/Root
A	Fototropisme positif Positive phototropism	Hidrotropisme negatif Negative hydrotropism
B	Fototropisme negatif Negative phototropism	Hidrotropisme positif Positive hydrotropism
C	Geotropisme positif Positive geotropism	Geotropisme negatif Negative geotropism
D	Geotropisme negatif Negative geotropism	Geotropisme positif Positive geotropism

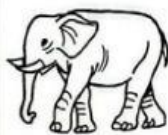

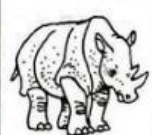
TP2 BT.ms.33-34

1.4

Kepentingan Gerak Balas terhadap Rangsangan dalam Haiwan Lain

Importance of Responses to Stimuli in Animals

- 7 **ARAS S** Ah Seong berada di kawasan zoo. Rajah 5 menunjukkan haiwan-haiwan yang terdapat di zoo tersebut. Haiwan-haiwan ini mengeluarkan bunyi dengan frekuensi yang berbeza.
Ah Seong is at a zoo. Diagram 5 shows the animals found in the zoo. The animals produced sound with different frequencies.

		
Gajah Elephant 10 000 Hz	Ikan lumba-lumba Dolphin 50 000 Hz	Badak sumbu Rhinos 70 Hz

Rajah 5/ Diagram 5

Bunyi haiwan yang manakah dapat didengar oleh Ah Seong?

Which animal sounds can Ah Seong hear?

- A Gajah, ikan lumba-lumba, badak sumbu
Elephant, dolphin, rhinos
- B Ikan lumba-lumba dan badak sumbu
Dolphin and rhinos
- C Gajah dan badak sumbu
Elephant and rhinos
- D Ikan lumba-lumba sahaja
Dolphin only

TP3 BT.ms.38