

SULIT



**KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI**

**BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENDIDIKAN TINGGI**

JABATAN KEJURUTERAAN ELEKTRIK

PEPERIKSAAN AKHIR

SESI I : 2025/2026

DEE30023: ANATOMY AND PHYSIOLOGY

TARIKH : 25 NOVEMBER 2025

MASA : 8.30 PAGI – 10.30 PAGI (2 JAM)

Kertas soalan ini mengandungi **ENAM (6)** halaman bercetak.

Bahagian A: Struktur (4 soalan)

Bahagian B: Esei (1 soalan)

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

SULIT

SECTION A : 80 MARKS***BAHAGIAN A : 80 MARKAH*****INSTRUCTION:**

This section consists of **FOUR (4)** structured questions. Answer **ALL** questions.

ARAHAN :

Bahagian ini mengandungi EMPAT (4) soalan berstruktur. Jawab SEMUA soalan

QUESTION 1***SOALAN 1***

- CLO1 (a) State the functions of blood cells and blood plasma.
Nyatakan fungsi bagi sel-sel darah and plasma darah.
- [4 marks]
[4 markah]
- CLO1 (b) Explain the condition that occur in prophase, metaphase and anaphase of mitosis in the cell with the aid of a diagram.
Terangkan keadaan yang berlaku padafasa profasa, metafasa dan anafasa bagi mitosis dalam kitaran sel dengan bantuan gambar rajah
- [6 marks]
[6 markah]
- CLO1 (c) Write **THREE (3)** skin layers based on their functions and characteristics.
Tuliskan TIGA (3) lapisan kulit berdasarkan fungsi dan ciri-cirinya.
- [10 marks]
[10 markah]

CLO1

QUESTION 2**SOALAN 2**

- (a) List the role of the coronary arteries and their contribution to the functioning of the heart.

Senaraikan peranan arteri koronari dan sumbangannya terhadap fungsi jantung.

[4 marks]

[4 markah]

CLO1

- (b) Explain the P, QRS and T waves represent on an ECG.

Terangkan makna gelombang P, QRS dan T pada ECG.

[6 marks]

[6 markah]

CLO1

- (c) Write the structure and function of the heart, including the flow of blood through its chamber and major blood vessels. Support your answer with a labelled diagram.

Tuliskan struktur dan fungsi jantung, termasuk aliran darah melalui ruang-ruangnya dan saluran darah utama. Sokong jawapan anda dengan rajah berlabel.

[10 marks]

[10 markah]

QUESTION 3**SOALAN 3**

CLO1

- (a) State the functions of diaphragm and alveoli.

Nyatakan fungsi bagi diaphragm dan alveoli.

[4 marks]

[4 markah]

CLO1

- (b) Explain the mechanism of breathing, including the roles of the diaphragm and intercostal muscles during inhalation and exhalation.

Terangkan mekanisme pernafasan, termasuk peranan diafragma dan otot interkostal semasa menarik nafas dan menghembus nafas.

[6 marks]

[6 markah]

- CLO1 (c) Write the process of digestion in the human body, including the roles of enzymes in breaking down carbohydrates proteins and fats.

Tuliskan proses pencernaan dalam tubuh manusia, termasuk peranan enzim dalam pemecahan karbohidrat, protein dan lemak.

[10 marks]

[10 markah]

QUESTION 4

SOALAN 4

- CLO1 (a) State the function of organ urinary system below.

i) bladder

ii) ureter

Nyatakan fungsi bagi organ system urinary di bawah:

i) pundi kencing

ii) ureter

[4 marks]

[4 markah]

- CLO1 (b) Explain **TWO (2)** structures and functions of the nephron in the kidney, including its role in the process of urine formation.

*Jelaskan **DUA (2)** struktur dan fungsi nefron dalam buah pinggang, termasuk peranannya dalam proses pembentukan air kencing.*

[6 marks]

[6 markah]

CLO1

- (c) Write the menstrual cycle, including hormonal regulation, the phases of the cycle and the events that occur in each phase.

Tuliskan kitaran haid, termasuk regulasi hormon, fasa-fasa kitaran dan peristiwa yang berlaku dalam setiap fasa.

[10 marks]

[10 markah]

SECTION B: 20 MARKS***BAHAGIAN B: 20 MARKAH*****INSTRUCTION:**

This section consists of **ONE (1)** essay questions. Answer the questions.

ARAHAN:

*Bahagian ini mengandungi **SATU (1)** soalan esei. Jawab soalan tersebut.*

QUESTION 1***SOALAN 1***

CLO1

A 30-year-old man was involved in a car accident and sustained a spinal cord injury, resulting in the loss of sensation and motor control in his legs. He also reported difficulty in breathing and regulating his heart rate. Doctors suspect the injury has affected both the central nervous system (CNS) and peripheral nervous system (PNS). Write the structure and function of the central nervous system (CNS) and peripheral nervous system (PNS), including how they work together to regulate body functions. Based on the scenario above, write how the spinal cord injury might affect both CNS and PNS and impact the patient's body functions.

Seorang lelaki berusia 30 tahun terlibat dalam kemalangan kereta dan mengalami kecederaan saraf tunjang, mengakibatkan kehilangan rasa dan kawalan motor di kakinya. Dia juga melaporkan kesukaran bernafas dan mengawal kadar denyutan jantungnya. Doktor mengesyaki kecederaan tersebut telah menjejaskan kedua-dua sistem saraf pusat (CNS) dan sistem periferal (PNS). Tuliskan struktur dan fungsi sistem saraf pusat (CNS) dan sistem saraf periferal (PNS), termasuk bagaimana kedua-duanya bekerjasama mengawal fungsi badan. Berdasarkan senario di atas, tuliskan bagaimana kecederaan saraf tunjang boleh menjejaskan kedua-dua CNS dan PNS serta memberi kesan kepada fungsi badan pesakit.

[20 marks]

[20 markah]

SOALAN TAMAT