

Physiology of Stress – Questions by Topic (MCQ)

Q1.

A steroid hormone that regulates energy use and the immune system, secreted from the adrenal glands when stress is experienced.

Which of the following substances is described above?

Write **A**, **B**, **C**, or **D** in your answer book.

- A** Adrenaline
- B** Adrenocorticotropin
- C** Corticotropin-releasing hormone
- D** Cortisol

(Total 1 mark)

Q2.

Below are four evaluative statements about general adaptation syndrome (GAS). Which statement is **TRUE**? Write **A**, **B**, **C**, or **D** in your answer book.

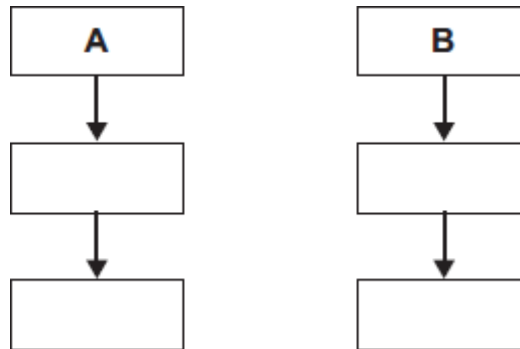
- A** It correctly explains how everyone responds in different ways to different sources of stress.
- B** It fails to explain what happens when a person is repeatedly exposed to stress.
- C** It is better at explaining female responses to stress than male responses to stress.
- D** It wrongly assumes that the body responds in the same way to different sources of stress.

(Total 1 mark)

Q3.

Complete the diagram below so that it shows stages of the sympathomedullary pathway and the pituitary-adrenal system. For **each** stage, write the appropriate letter in the correct box.

HYPOTHALAMUS



- A** adrenal medulla
- B** adrenal cortex
- C** decreases heart rate and blood pressure
- D** liver stores energy
- E** cortisol / corticosteroids released
- F** adrenaline and noradrenaline released
- G** pituitary gland
- H** gets body ready for 'fight or flight'
- I** immune system suppressed

(Total 4 marks)

Q4.

The following are features of the pituitary-adrenal system and the sympathomedullary pathway.

Tick the boxes next to **three** features of the sympathomedullary pathway.

Noradrenaline	<input type="checkbox"/>
Pituitary gland	<input type="checkbox"/>
Adrenal cortex	<input type="checkbox"/>
Adrenal medulla	<input type="checkbox"/>
Sympathetic nervous system	<input type="checkbox"/>

(Tick three boxes only)

(Total 3 marks)

Q5.

The body's response to stress includes the pituitary-adrenal system and the sympathomedullary pathway. The following are all features of this stress response.

- A** Adrenal medulla
- B** Noradrenaline
- C** Adrenal cortex
- D** Adrenaline
- E** Cortisol / Corticosteroids
- F** Adrenocorticotrophic hormone (ACTH)

Select **two** from the above list that are linked to the pituitary-adrenal system and **two** from the list that are linked to the sympathomedullary pathway.

Put **one** letter in each box.

Pituitary-adrenal system		
Sympathomedullary pathway		

(Total 4 marks)