Thermoregulation Homework

Please practice these exam style questions, based on what we learnt Monday 9th November

Question 1 (Multiple Choice / 1 Mark)

Which gland in the human body is often called the 'master gland' because it releases hormones that control other glands?

- **A** Thyroid gland
- **B** Pituitary gland
- **C** Adrenal gland
- **D** Pancreas

Question 2 (Matching / 3 Marks)

Hormones travel in the body to reach their target organs.

Draw one straight line from each hormone to the gland that releases it.

Hormone:	Gland that releases it:
[Insulin] •	• [Testes]
[Testosterone] •	• [Adrenal Gland]
[Adrenaline] •	• [Pancreas]

Question 3 (Fill in the Blanks / 3 Marks)

The human body must control its blood glucose (sugar) levels using hormones.

Use words from the box to complete the sentences below. Each word can be used once, more than once, or not at all.

liver insulin glycogen pancreas glucose stomach

After eating a meal, blood sugar levels rise. This is detected by an organ called the **(a)** _____.

This organ releases a hormone called **(b)** _____ into the blood.

This hormone travels to the **(c)** _____, causing it to store the extra sugar.

Question 4 (Data & Short Answer / 3 Marks)

A doctor tested a patient's blood sugar levels over several hours. The results are shown in the table below.

Time (Hours)	Blood Glucose Level (mmol/L)
0 (Before meal)	4.5
1 (After meal)	8.2
2	6.1
3	4.7

(a) Calculate the decrease in blood glucose levels between hour 1 and hour 3. [1 mark]

(b) State the definition of a hormone. [1 mark]

(c) Name the system in the body that is made up of glands that release hormones. [1 mark]

Question 5 (Structured Short Answer / 4 Marks)

During puberty, the body undergoes changes controlled by sex hormones.

(a) Name the main female reproductive hormone produced by the ovaries. [1 mark]

(b) State one secondary sexual characteristic that develops in females during puberty. [1 mark]

(c) The menstrual cycle is controlled by hormones. State the average length of the human menstrual cycle in days. [1 mark]

(d) Name the hormone that triggers the release of an egg (ovulation) during the cycle. [1 mark]

Question 6 (Extended Writing / 6 Marks)

A person steps out into the road and suddenly sees a car driving fast towards them. Their body immediately enters a 'fight or flight' state.

Describe how the hormone adrenaline is released in this situation and explain the changes it causes inside the body to help the person quickly jump out of the way.