Unit 23 · Endocrinology

WORKSHEET

Full marks 32

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 32

1 Key words [4]

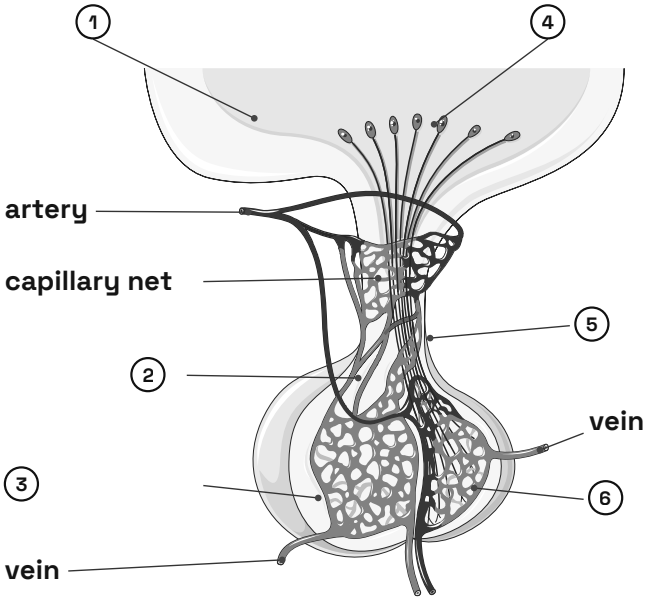
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

acromegaly	**aldosterone**	**calcitonin**	**glucagon**	**goiter**	**Herring bodies**	**infundibulum**
insulin	**sella turcica**	**tropic**				

The hollow of the sphenoid bone in which the pituitary sits is the _____. The stalk that joins the pituitary to the hypothalamus is the _____. A hormone that makes another endocrine gland work is a _____ hormone. Too much growth hormone in an adult causes _____. A swelling of the thyroid when the diet lacks iodine is simple _____. The C cells of the thyroid make _____. The beta cells of the islets of Langerhans make _____. The outer zone of the adrenal cortex, the zona glomerulosa, makes _____.

2 Label the diagram [3]

The diagram shows the pituitary gland and the hypothalamus above it, cut through from front to back. Write the names of the parts 1 to 6. Each carries 0.5 mark.



1. _____ **2.** _____

3. _____ **4.** _____

5. _____ **6.** _____

3 Multiple choice [5]

Choose the correct option for each of the following questions.

i. Which part of the hypothalamus makes oxytocin and ADH? [1]

a. the supra-optic and paraventricular nuclei of the anterior region
b. the arcuate nucleus of the middle region
c. the mammillary nuclei
d. the posterior lobe of the pituitary

ii. Parathormone and calcitonin are called antagonistic because: [1]

a. both are made by the thyroid
b. both raise blood calcium
c. one raises blood calcium and the other lowers it
d. both are steroids

iii. Why is the adrenal medulla called the gland of emergency? [1]

a. Its hormones act slowly over weeks.
b. Sympathetic nerves trigger it within seconds, and its adrenaline prepares the body to fight or run.
c. It makes cortisol in long illness.
d. It controls the pituitary.

iv. A man passes about 10 liters of dilute urine a day and is always thirsty, but his urine has no sugar in it. Which hormone is most likely lacking? [1]

a. insulin **b.** ADH
c. aldosterone **d.** oxytocin

v. A woman has lost weight although she eats more than before, her heart races, her hands tremble and her eyes bulge. She most likely has: [1]

a. myxedema **b.** Hashimoto's disease
c. Graves' disease **d.** simple goiter

4 Short answers [9]

Write short answers to the following questions.

a. Write two differences between hormones and enzymes. [2]

b. Prolactin and oxytocin both concern milk. How do their jobs differ? [2]

c. Nepal began adding iodine to salt in 1973. Explain why goiters were common in its hills before that. **[2]**

d. Name the three zones of the adrenal cortex and the kind of hormone each makes. **[3]**

5 Long answers **[8]**

Write long answers to the following questions.

a. Describe the functions of insulin and glucagon. How do they keep blood sugar steady? **[4]**

b. Explain, with the example of the thyroid, how negative feedback controls a gland. What happens to TSH if the thyroid is removed? **[4]**

6 Think [3]

A cretin and a pituitary dwarf are both short. A doctor finds one child's TSH is very high. Which child is it, and how would the two children differ?

7 Activity: Read a salt packet (not marked)

Collect packets of salt from home and from shops near you. Look for the word "iodized", the logo of two children, and the amount of iodine stated.

Brand of salt	Iodized?	Logo of two children?	Iodine stated

Why must the iodine be added to salt, and not to some other food?