UNIVERSITY OF JOHANNESBURG

LIFE SCIENCES FET 3B FOR TEACHERS

CLASS TEST 4: THE HUMAN ENDOCRINE SYSTEM

DATE: 10 September 2020 MODULE CODE: LSFT03B

SET BY: Mr J Ramnarain MODERATED BY: Ms J Williamson

QUESTION 1 **(10)**

Various options are provided as possible answers to the following questions. Select and write down the letter of the option that best answers / completes the question.

1.1 An over secretion of growth hormones in adults characterises a disorder called:

A. Pituitary dwarfism
B. Gigantism
C. Acromegaly
D. Tetany

1.2 Which of the following has a negative effect on the body's immune system when in high concentrations in the body?

A. Glucagon
B. Glucocorticoids
C. Mineralocorticoids
D. All the above

1.3 In what ways do endocrine glands and exocrine glands differ?

A. The duration of activity of their secretion
B. The presence or absence of ducts
C. The transport medium of their secretions
D. All the above

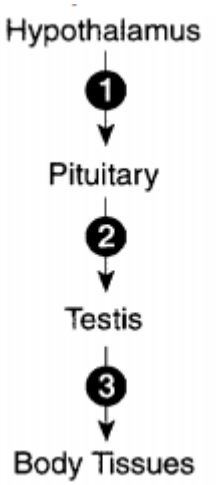
1.4 Which hormone plays an integral (important) role in child labour?

A. Adrenaline
B. Prolactin
C. Oxytocin
D. Glucagon

1.5 Which hormone does not directly regulate human reproductive cycles?

A. Oestrogen
B. Testosterone
C. Glucagon
D. Progesterone

Question 1.6 to 1.8 is based on the flow chart below. The arrows represent hormones



1.6 Which activity would most likely be a function of hormone 3?

A. Stimulating the body tissues to produce secondary sex characteristics
B. Causing the thyroid to produce thyroxin
C. Increasing the blood-sugar level
D. Promoting the conversion of body fat into glycogen

1.7 A high level of hormone 3 in the blood inhibits the production of hormone 2. This situation is an example of:

A. Nerve regulation

B. Hydrolysis

C. Negative feedback

D. Deamination

1.8 The hormone testosterone is represented by:

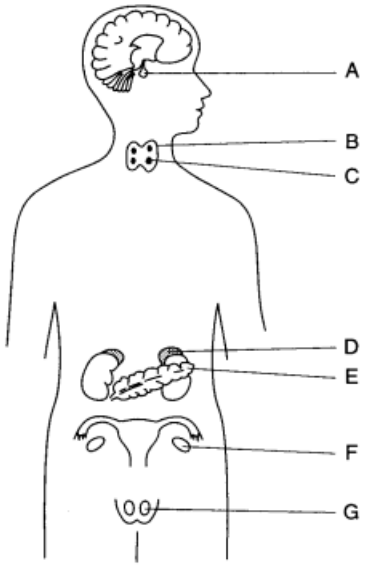
A. 1 only

B. 2 only

C. 3 only

D. 2 and 3 only

Question 1.9 to 1.10 refer to the diagram of the human endocrine system below.



1.9 The level of glucose in the blood is regulated by secretions from glands:

A. A and G

B. E and C

C. E and G

D. D and E

1.10 The secretion of hormones from gland F is regulated by hormones secreted from gland:

A. A

B. G

C. D

D. E

QUESTION 2 **(19)**

2.1 Complete the table below by writing out the answer next to the applicable question number. (12)

Gland	Hormone	Function of hormone
Pituitary gland	2.1.1	Stimulates ovulation
2.1.2	2.1.3	Stimulates the production of thyroxin
2.1.4	Thyroxin	2.1.5
Beta cells of the Islets of Langerhans	2.1.6	2.1.7
Alpha cells of the Islets of Langerhans	2.1.8	2.1.9
Neurosecretory cells of the Hypothalamus	2.1.10	Regulates water levels in the blood

2.2 Explain the negative feedback mechanism between thyroxin and the hormone referred to in question 2.1.3. (8 x ½) (4)

2.3 Fully explain how the gland referred to in question 2.1.4 assists in the homeostasis of calcium ion levels in the blood. (3)

QUESTION 3 **(15)**

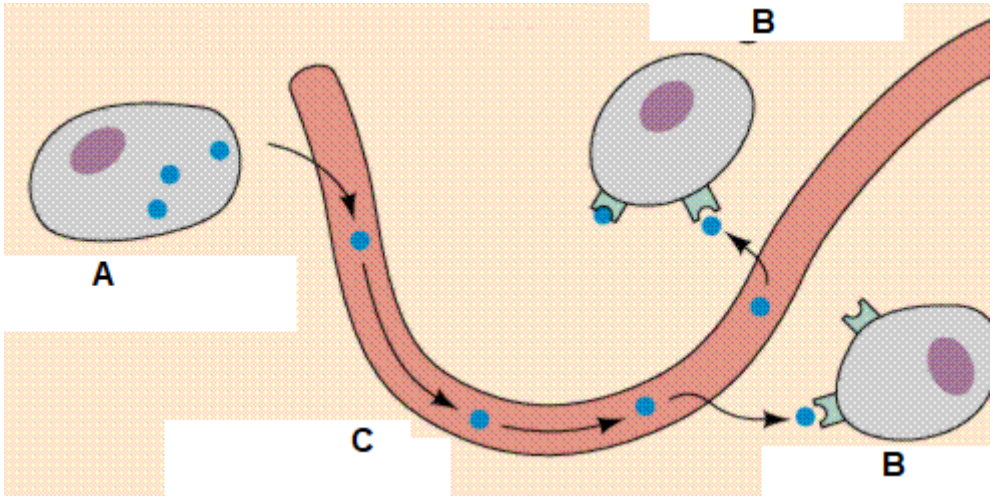
A young boy steps on a thorn and immediately jumps away.

Explain how the boy's endocrine system induces stress ***and*** assists him in responding to this stimulus. Briefly explain the protective role of the nervous system in this situation.

QUESTION 4 **(6)R**

Read the information below and answer the questions that follow.

Mr Smith is teaching his grade 12 learners how hormones travel in the human body. He uses the image below to mediate the knowledge to his learners.



4.1 List prior learner content knowledge needed to mediate this information. (3)

4.2 Mr Smith provides his learners with the following labels:

Secretory cell	Blood vessel	Target cell

A learner labels the above diagram with these labels as follows:

(A) Target cell, (B) Secretory cell, (C) Blood vessel

Provide feedback to this learner as a future Life Sciences teacher. (3)

TOTAL: 50