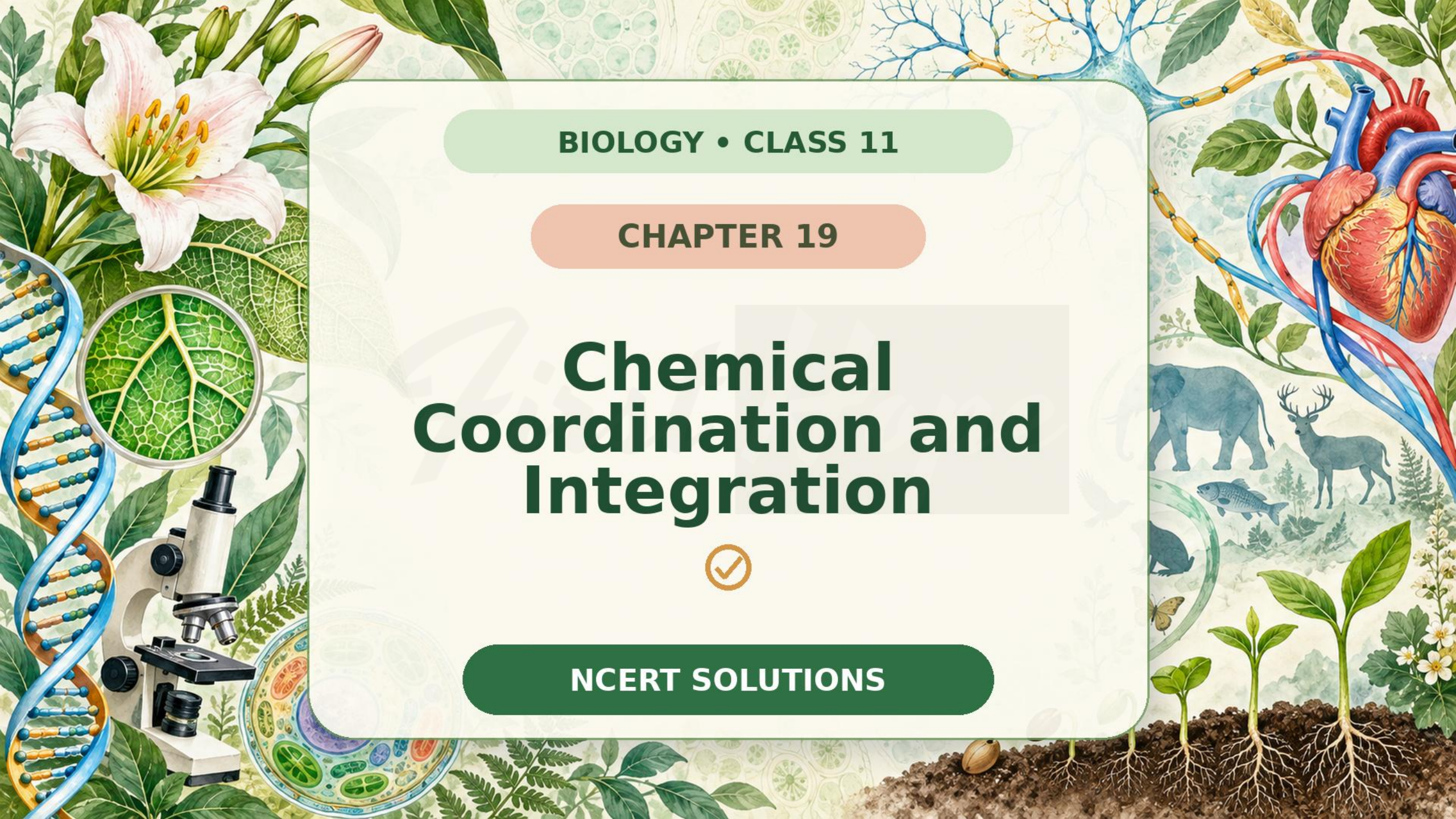


A vibrant collage of biological illustrations. On the left, a pink lily flower is in bloom, with green buds and leaves. Below it, a blue and orange DNA double helix is visible. A magnifying glass focuses on a green leaf's vein structure. A microscope is positioned in the lower-left corner. The background is filled with various green leaves and ferns. On the right side, a detailed illustration of a human heart with red and blue blood vessels is shown. Below the heart, there are silhouettes of an elephant, a deer, and a fish. At the bottom, a small green plant with roots is growing out of a mound of brown soil.

BIOLOGY • CLASS 11

CHAPTER 19

Chemical Coordination and Integration



NCERT SOLUTIONS

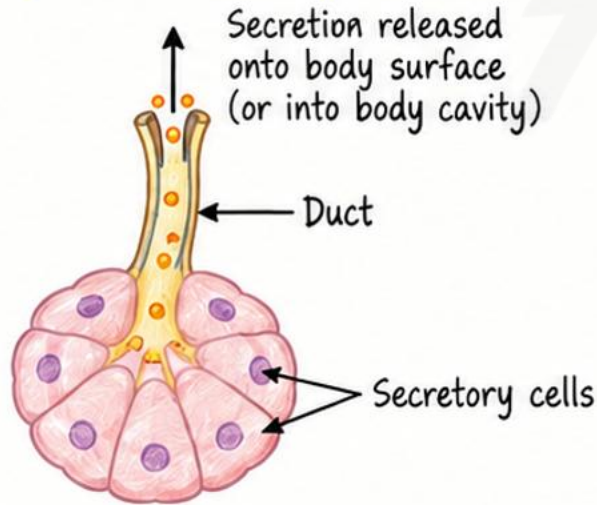
EXERCISE SOLUTION: QUESTION 1

1. Define: (a) Exocrine gland, (b) Endocrine gland, (c) Hormone.

Answer:

(a) Exocrine gland

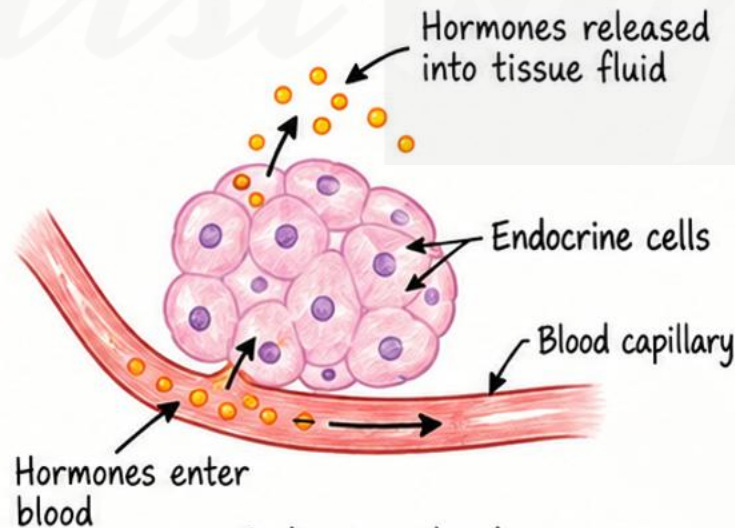
a gland that releases its secretion through a duct onto a body surface or into a body cavity; examples: salivary and sweat glands.



Exocrine gland
(e.g. salivary gland)

(b) Endocrine gland

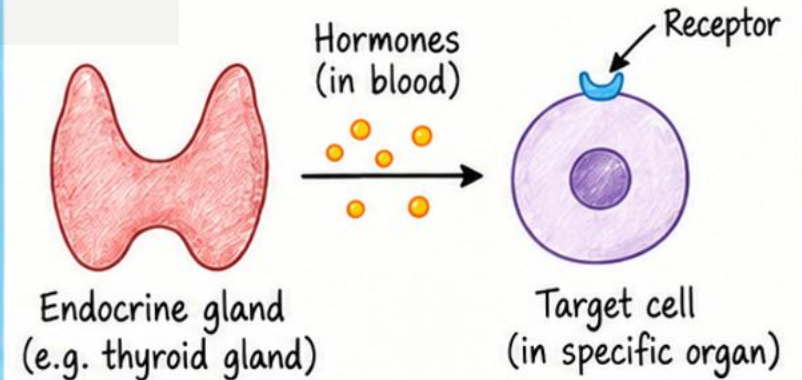
a ductless gland that releases hormones into the surrounding tissue fluid and then blood; examples: pituitary and thyroid.



Endocrine gland
(e.g. thyroid gland)

(c) Hormone

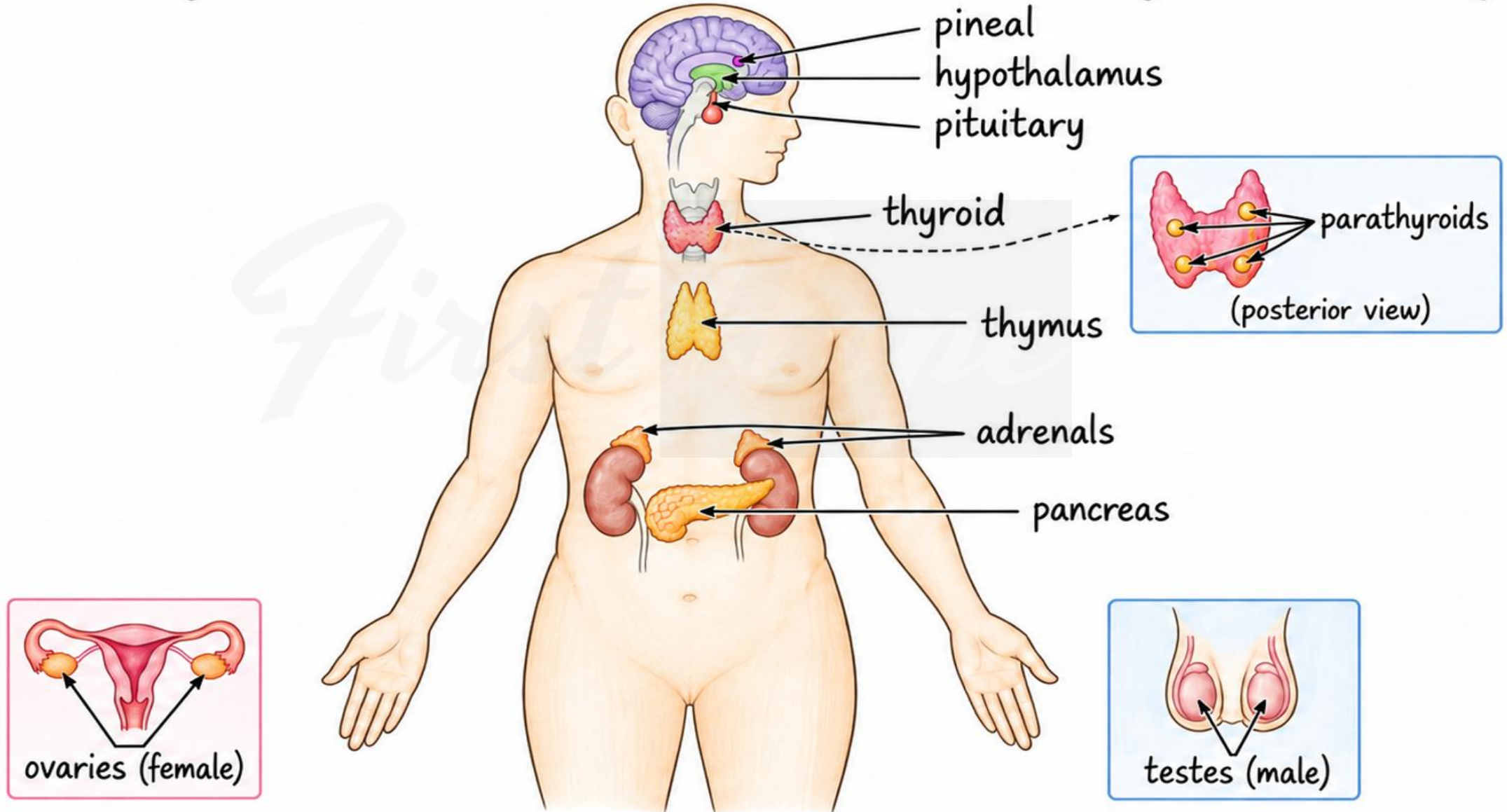
a non-nutrient chemical messenger produced in trace amounts that acts on specific target cells or organs to regulate body functions.



EXERCISE SOLUTION: QUESTION 2

2. Diagrammatically indicate the location of the various endocrine glands in our body.

Answer:



EXERCISE SOLUTION: QUESTION 3 (A-E)

3. List the hormones secreted by the following.

Answer:

- (a) Hypothalamus — releasing hormones and inhibiting hormones; examples: GnRH and somatostatin.
- (b) Pituitary — GH, prolactin, TSH, ACTH, FSH, LH and MSH; posterior pituitary releases oxytocin and vasopressin (ADH).
- (c) Thyroid — thyroxine/ T_4 , triiodothyronine/ T_3 and calcitonin (thyrocalcitonin).
- (d) Parathyroid — parathyroid hormone (PTH).
- (e) Adrenal — cortex: aldosterone, cortisol and adrenal androgens; medulla: adrenaline and noradrenaline.

EXERCISE SOLUTION: QUESTION 3 (F-L)

3. List the hormones secreted by the following.

Answer:

- (f) Pancreas — glucagon and insulin.
- (g) Testis — androgens, mainly testosterone.
- (h) Ovary — estrogen and progesterone.
- (i) Thymus — thymosins.
- (j) Atrium — atrial natriuretic factor (ANF).
- (k) Kidney — erythropoietin.
- (l) G-I tract — gastrin, secretin, cholecystokinin (CCK) and gastric inhibitory peptide (GIP).



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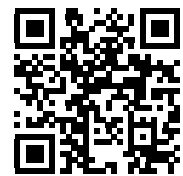


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