

Basic Anatomy & Physiology II
Sample Questions for Exam I

I. Multiple Choice: Read each question carefully and choose the best answer. Using a #2 pencil, fill in the letter for the correct answer on the Scantron answer sheet provided. There is only one correct answer per question.

1. Most hormones are:
A. nucleic acids B. steroids C. amino acid based D. carbohydrates
2. Portal vessels of the hypophyseal portal system:
A. join capillary beds in the hypothalamus with capillary beds in the posterior pituitary
B. are abundant in the medulla of the adrenal gland
C. provide a direct route for releasing hormones and inhibiting hormones from the hypothalamus to the anterior pituitary
D. allow regulating hormones produced by the posterior pituitary to be carried by the bloodstream directly to the anterior pituitary
3. Which of the following is produced by the anterior pituitary and stimulates milk production:
A. luteinizing hormone B. oxytocin C. prolactin D. follicle-stimulating hormone
4. ADH (antidiuretic hormone) is synthesized in the:
A. anterior pituitary B. posterior pituitary
C. cortex of the adrenal gland D. hypothalamus
5. The immediate effect of low blood levels of thyroid hormone detected by chemoreceptors in the hypothalamus is that the hypothalamus releases:
A. ADH B. TSH (thyroid-stimulating hormone) C. TRH (thyrotropin releasing hormone)
D. thyroid hormones
6. Which of the following is NOT correct? Parathyroid hormone:
A. is released when calcium ion concentration of the blood falls below normal
B. stimulates osteoclasts to resorb bone matrix
C. causes the kidneys to excrete more calcium ions into the urine
D. increases the absorption of calcium ions into the blood from the lumen of the intestines
7. Lymphatic vessels carry lymph into and out of which of the following:
A. the thymus B. tonsils C. lymph nodes D. the spleen
8. Macrophages play a role in immunity by:
A. dividing and giving rise to B lymphocytes
B. dividing and giving rise to T lymphocytes
C. phagocytizing antigens and presenting them to lymphocytes
D. phagocytizing T lymphocytes and antibodies
9. Undifferentiated lymphocytes produced in the bone marrow become immunocompetent in the ___?___ to become T lymphocytes:
A. blood B. bone marrow C. thymus D. thyroid gland

10. During antibody-mediated immunity (humoral immunity), activated B lymphocytes divide and give rise to:
- A. T lymphocytes and macrophages B. macrophages and B memory cells
 C. memory B lymphocytes and plasma cells D. antibodies and macrophages
11. Mr. Unlucky was bitten by a raccoon that was infected with the rabies virus. He was given an injection of antibodies to provide him with immediate protection against the virus. This is an example of what type of immunity:
- A. artificially acquired active B. naturally acquired active
 C. artificially acquired passive D. naturally acquired passive
12. Following an initial exposure to an antigen, a subsequent exposure to the same antigen stimulates a secondary response, characterized by:
- A. a slower response with a higher level of antibody production
 B. a slower response with a lower level of antibody production
 C. a faster response with a higher level of antibody production
 D. a faster response with a lower level of antibody production

II. Fill in the Blanks. Place the appropriate word(s) in the blanks:

1. _____ Name the endocrine gland that is on the superior border of each kidney in humans.
2. _____ Beta cells of the pancreas produce what hormone?
3. _____ Name one hormone that is a gonadotropin.
4. _____ Name the main duct of the lymphatic system that collects lymph from the upper left side of the body and the entire body inferior to the diaphragm.
5. _____ Name the specific type of cell that is derived from a B lymphocyte and produces antibodies.

III. Carefully and completely DEFINE FIVE (5) of the following. Each answer should only require only about one sentence!!

- tropic hormone (tropin) -
- eicosanoids -
- down-regulation of a hormone -
- fever -
- antigen -
- immunocompetent -
- autocrines –
- inflammation –

IV. Carefully and completely describe ONE SPECIFIC FUNCTION of NINE (9) of the following (i.e., describe something specific that it does) Each answer should NOT be just one word!!

- adrenocorticotrophic hormone -
- follicle stimulating hormone in females -
- luteinizing hormone in males -
- prostaglandins -
- lymph nodes -
- interferons -
- activated complement -
- helper T lymphocyte -
- cytotoxic T lymphocyte –
- NK cells (natural killer cells) –
- antigen-presenting cell –

V. List the 4 cardinal signs of local inflammation and CAREFULLY EXPLAIN THE SPECIFIC CAUSE OF EACH.

VI. From the list below, fill in the blanks to indicate the correct organ or tissue to which each phrase pertains. Each of the choices below may be used more than once or not at all.

- | | | |
|--------|------------|------------------|
| tonsil | lymph node | lymphatic nodule |
| spleen | thymus | MALT |

- _____ is located in the mediastinum (along with the heart)
- _____ has sinuses with numerous macrophages through which lymph flows and is filtered
- _____ associated with the pharynx and provides an immune response against inhaled and ingested foreign microbes
- _____ is the largest lymphatic organ in the body and is located in the upper left of the abdominal cavity

VII. Fill in the blanks with the appropriate letter to indicate whether each phrase pertains to cell mediated immunity, antibody mediated immunity, both or neither. Each letter may be used more than once or not at all.

c = cell-mediated immunity

a = antibody-mediated immunity

b = both cell-mediated immunity and antibody-mediated immunity

n = neither cell-mediated immunity nor antibody-mediated immunity

_____ is particularly effective against intracellular pathogens

_____ results in the production of antibodies that carry out actions to help destroy antigens

_____ a type of nonspecific defense (nonspecific resistance)

_____ is triggered by antigens

_____ results in the production of memory cells

_____ results in the production of cytotoxic T cells that destroy cells with the antigen

VIII. (1 point each) Below is a list of hormones. Fill in the blanks to indicate the hormone to which each of the phrases pertains. ★A hormone may be used more than once, or not at all. ★

GnRH

T3 and T4

ACTH

insulin

oxytocin

TRH

parathyroid hormone

prolactin

aldosterone

FSH

LH

_____ synthesized by beta cells in the pancreas

_____ is produced in the hypothalamus of the brain and stimulates the anterior pituitary to release hormones called gonadotropins

_____ stimulates the testes to produce testosterone

_____ stimulates the cortex of the adrenal gland to produce hormones

_____ is the abbreviation for gonadotropin-releasing hormone

_____ produced in the hypothalamus and initiates milk ejection