

## Human Physiology 2 Exam 1

HUMAN PHYSIOLOGY II - MAIN EXAM  
THERE ARE 3 SECTIONS IN THIS PAPER  
ANSWER ALL THE QUESTIONS.

- 1) The visual sensory area of the cortex is located in?
  - a) Parietal lobe
  - b) Occipital lobe
  - c) Frontal lobe
  - d) Temporal lobe
  
- 2) What stimulates the release of ADH from the posterior pituitary gland
  - a) Increased blood levels of sodium
  - b) Decreased blood levels of sodium
  - c) Increased blood levels of glucose
  - d) Decreased blood levels of glucose
  
- 3) Muscarinic receptors are found in?
  - a) Motor end plate of skeletal muscles
  - b) All ganglionic neurons
  - c) The hormone producing cells of adrenal glands
  - d) All effector cells stimulated by post-ganglionic cholinergic fibers.
  
- 4) In females the effect of follicle stimulating hormone is
  - a) The final maturation of the ovarian follicles and the release of oestrogen
  - b) The early maturation of the ovarian follicles and the release of progesterone
  - c) The final maturation of ovarian follicles and the release of progesterone
  - d) The early maturation of the ovarian follicles and the release of progesterone
  
- 5) What is the function of insulin
  - a) Increase glucose uptake by cells
  - b) Increase urine formation
  - c) Speed glucose excretion by the liver
  - d) Increase calcium deposition in bone
  
- 6) A decrease in secretion of antidiuretic hormone will result in
  - a) Diabetes insipidus
  - b) Graves disease
  - c) Diabetes mellitus
  - d) Adrenogenital syndrome
  
- 7) Which the following is completely reabsorbed in the proximal convoluted tubule
  - a. Sodium
  - b. urea
  - c. glucose

d. water

8) The main barrier precluding the free passage of albumin across the glomerular capillary walls is formed by:

- A. the fenestrated glomerular endothelium
- B. anionic proteoglycan clusters within the glomerular basement membrane
- C. the filtration slits in between visceral epithelial cells (podocytes)
- D. none are correct
- E. all are correct

9) The emotional and affective (feeling) region of the brain is?

- A. The limbic system.
- B. The reticular system.
- C. The cerebellum.
- D. The midbrain

10) Which of the following is not a function of the kidneys

- a. Blood pressure regulation
- b. Regulate acid base balance
- c. Production of vitamin B complex
- d. Excretion of waste products

11) Concerning the function of proximal convoluted tubule

- a) Most of the glomerular ultrafiltrate is reabsorbed in the proximal tubule in an iso osmotic fashion
- b) The concentration of PAH doesn't change much along the length of the proximal tubule
- c) Under normal conditions most of the filtered glucose and bicarbonate are reabsorbed on the proximal tubule
- d) A and C are correct

12) Which structure detects changes in temperature?

- a) Pons
- b) Medullar
- c) Thermoreceptors
- d) Pituitary gland

13) The action potential relies upon the movement of which of the ions into and out of the cell

- a) Calcium and magnesium
- b) Iron and iodide
- c) Sodium and potassium
- d) Iron and iodide

14) Which of the following produces male sex hormones

- a) Seminal vesicles
- b) Corpus luteum
- c) Developing follicles of the testis
- d) Intestitials cells of Lydig

15) Which of these is an example of a neurotransmitter

- a) Dopamine

- b) Norepinephrine
  - c) Acetylcholine
  - d) All the above
- 16 The sex of the child is determined by the?
- a) The sex chromosomes in the testis
  - b) The sex chromosomes in the oocyte
  - c) The sex chromosome in the sperm
  - d) The position of the fetus in the uterus
  - e) The timing of conception.
- 17 Sperms are produced at a temperature that is
- a) Higher than body temperature
  - b) Immaterial
  - c) Lower than body temperature
  - d) The same as body temperature
- 18 Hypersecretion of which hormone causes exophthalmos?
- a) Thyroid hormone
  - b) Parathyroid hormone
  - c) Androgens
  - d) Aldosterone
- 19 Hormones Of the following male organs which one is considered primary sex organ
- a) Are produced by exocrine glands
  - b) Are carried to all parts of the body in blood
  - c) Remain at constant concentration in the blood
  - d) Affect only non-hormone producing organs
- 20 In general hormonal secretion may be stimulated by all the following except
- a) Nerves
  - b) Alteration in the concentration of a specific substance
  - c) Instructions from another endocrine organ
  - d) Genetic make up

## SHORT ANSWER QUESTIONS (SAQ)

- 1) Describe briefly the chemical structure and mechanism of action of hormones (6marks).
- 2) Briefly state the anatomical divisions of the adrenal gland and the type of hormones produced by each. (8 marks).
- 3) Classify sensory according to type of stimuli and give examples (6 marks)
- 4) Describe, in brief, the role of kidney in acid-base balance. (6 marks).
- 5) Describe the phases and events of ovarian cycle. (6 marks).
- 6) Describe in brief the process of sperm formation. (6 marks).
- 7 Define reflex, and name the five parts of a reflex arc. (6 marks).
- 8 Describe how a nerve impulse crosses a synapse. (6 marks).

## LONG ESSAY QUESTIONS.

- 1 Describe in detail how urine is formed.
2. Concerning the pancreas.

- a. Name the functional parts of the pancreas (2 marks).
- b. List the endocrine cells of the pancreas and the hormones they produce (4 marks).
- c. How is insulin produced and secreted (3 marks).
- d. What is the mechanism of action of insulin and its effects (6 marks).