

※ 考生請注意：本試題不可使用計算機 請勿在本試題紙上作答，否則不予計分

Multiple choice questions (total 60 points, 4 point/question))

1. Which of the following is an example of "positive feedback" system in the body?
 - A. Control of blood glucose by insulin
 - B. ADH feedback loop to regulate water content in the body
 - C. A thermostat to regulate room temperature
 - D. Hormones involve in the process of parturition (birth)

2. Most of the water in the human body is found in
 - A. The interstitial fluid compartment
 - B. The intracellular fluid compartment
 - C. The plasma compartment
 - D. The total extracellular compartment

3. Which of the following statements about neural tissue is **not correct**?
 - A. Neurotransmitters released from presynaptic neuron to transmit information
 - B. Glial cells are involved in sustain neuron metabolism, forming blood brain barrier, and provide immune functions
 - C. The neuronal plasticity increases between birth and adulthood
 - D. Afferent neurons transmit information into the CNS from receptors at the peripheral endings.

4. Which of the following statements about gastrointestinal hormones is **not correct**?
 - A. Gastrin is a peptide
 - B. Cholecystkinin (CCK) stimulate stomach acid secretion
 - C. Secretin stimulates insulin secretion
 - D. CCK stimulates gallbladder contraction

5. Malabsorption syndrome can lead to the deficiency of
 - A. Vitamin D
 - B. Vitamin B₁₂
 - C. Vitamin C
 - D. Absorption of carbohydrate

(背面仍有題目，請繼續作答)

系所組別： 細胞生物與解剖學研究所

考試科目： 生理學

考試日期：0224，節次：1

※ 考生請注意：本試題不可使用計算機

- 6 Which of the following can be the major causes of anemia, **except**?
- A. Dietary deficiency of iron
 - B. Cancer of bone marrow
 - C. Sickle-disease
 - D. Decreased oxygen delivery to kidneys
- 7 Mean arterial pressure is determined by all of the followings, **except**
- A. Total peripheral resistance
 - B. Right atrial pressure
 - C. Heart stroke volume
 - D. Activity of parasympathetic nerves
- 8 Conducting system of heart follows which of following order?
(1) SA node, (2) bundle of His, (3) AV node, (4) Purkinji fibers
- A. 1234 B. 1324 C. 3421 D. 2341
- 9 Heartburn could be due to which of the followings, **except**?
- A. Increased abdominal pressure
 - B. Hydrochloric acid irritates the esophageal walls
 - C. Dysfunction of upper esophageal sphincter
 - D. Pregnanacy
- 10 Which of following about control of plasma glucose level is **not correct**?
- A. Cortisol decreases gluconeogenesis
 - B. Decreased plasma glucose level increase glucagon secretion
 - C. Decreased plasma glucose level enhance lipolysis
 - D. Increased plasma glucose level decreases sympathetic activity
- 11 Which of the following statements about corpus luteum is **correct**?
- A. Corpus luteum is formed before ovulation
 - B. Is formed from granulosa cells of uterus
 - C. Secretes inhibin, estrogen, and progesterone
 - D. LH acts on granulosa cells to form corpus luteum

系所組別：細胞生物與解剖學研究所

考試科目：生理學

考試日期：0224，節次：1

※ 考生請注意：本試題不可使用計算機

12. Which of the following statements about hormones of adrenal cortex is **correct**?

- A. Aldosterone production is under the control of angiotensin II
- B. Aldosterone is produced by cells in the zona fasciculata
- C. Most cortisol is produced by cells in the zona reticulata
- D. Androgen is produced by cells in the zona glomerulosa

13. Which of the following about action potential is **correct**?

- A. Amplitude varies with size of initiating event
- B. Has no threshold
- C. Can be a depolarization or a hyperpolarization
- D. Cannot be summed

14. Which of the following can be converted to glucose by gluconeogenesis in the liver?

- A. Fatty acid
- B. Glycogen
- C. Triglyceride
- D. Glycerol

15. Which of the following statement is **not correct**?

- A. The most abundant immunoglobulin in serum are IgG and IgM
- B. IgG antibodies are involved in adaptive immune
- C. All antibodies of a given class have an Fc portion that is identical in amino acid sequence
- D. IgM antibodies are primarily involved in immune defense mechanisms found in the surface or lining of mucosa

II. What is the molar concentration of water in 0.9% saline solution? (10 points) (MW: Na=23, Cl=35.5)

III. Briefly describe the of following terms (30 points, 5 point/question)

1. Calcitonin
2. Renin
3. Antidiuretic hormone
4. leptin
5. Long-term-potential
6. Synapse plasticity