

系 級	科 目	授 課 教 師	考 試 日 期	學 號	姓 名
保一	普通生物	曹金仁	73年1月15日第1節		

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 ②每張試題卷務必填寫(學號)、(姓名)。

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Choose the best answer (Total 50 questions, 1.3% each) 且把答案填入上面的答案框內。

- A person whose eyeball is shorter than normal suffers from

A) hyperopia (farsightedness).      B) myopia (nearsightedness).      C) astigmatism.  
 D) presbyopia.      E) visual acuity.
- Where is organ of Corti?

A) in the pinna      B) in the outer ear      C) in the inner ear  
 D) in the middle ear      E) in the Eustachian tube
- Where are olfactory receptor cells located?

A) in the fore brain      B) in the semicircular canals      C) in the saccule  
 D) in the nasal cavity      E) in the vitreous chamber
- Where does sensory transduction occur?

A) in the cerebral cortex      B) in the thalamus      C) in the spinal cord  
 D) in the cell body of sensory cells      E) in the plasma membrane of sensory cells
- Sensory receptor cells convert a stimulus

A) from a physical to a chemical form.      B) from an action potential to a synaptic potential.  
 C) into some type of membrane potential.      D) into different forms to be sent to the brain.  
 E) into sensation by integrating incoming action potential.
- What is the functional unit of the nervous system?

A) dendrite      B) cell body      C) neuron      D) axon      E) synapse
- Multiple sclerosis is involves primarily

A) destruction of the hippocampus.      B) deterioration of the corpus callosum.  
 C) destruction of the myelin sheath.      D) destruction of regions of the motor cortex.  
 E) deterioration of parts of the spinal cord.

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8. Which of the following statements about sodium-potassium pump is *not* true?
  - A) It is a membrane protein.
  - B) It keeps the concentration of sodium low inside the cell.
  - C) It moves equal amounts of sodium and potassium across the membrane.
  - D) If it stopped working, much of the membrane potential would dissipate.
  - E) It actively transports potassium into the cell.
  
9. Which parts of the human brain regions are responsible for control of breathing?
  - A) thalamus and hypothalamus
  - B) basal ganglia and corpus callosum
  - C) medulla oblongata and pons
  - D) cerebrum and cerebellum
  - E) hippocampus and amygdala
  
10. Which of the following effects could result from activation of the sympathetic nervous system?
  - A) decreased blood pressure
  - B) decreased heart rate
  - C) decreased rate of digestion
  - D) constriction of the bronchi
  - E) decreased rate of breathing
  
11. In human female, the ovarian cycle begins when
  - A) the levels of estrogen reach their maximum.
  - B) the hypothalamus increases its release of FSH and LH.
  - C) the hypothalamus stimulates the pituitary to increase its output of FSH and LH.
  - D) the levels of progesterone drop precipitously.
  - E) the levels of FSH and LH drop precipitously.
  
12. Where do developing sperm cells undergo meiosis?
  - A) in the epididymis
  - B) in the vas deferens
  - C) in the seminal vesicle
  - D) in the wall of the seminiferous tubules
  - E) in the seminiferous tubule lumen
  
13. Which of the following structures contributes to the placenta?
  - A) corpus luteum
  - B) chorion
  - C) amnion
  - D) yolk sac
  - E) allantois
  
14. After a baby is born, milk production is stimulated by which of the following hormones?
  - A) prolactin only
  - B) prolactin and oxytocin
  - C) progesterone alone
  - D) progesterone and prolactin
  - E) estrogen and progesterone
  
15. Which of these events occurs first?
  - A) gastrulation
  - B) neurulation
  - C) cleavage
  - D) implantation
  - E) aggregation
  
16. When the concentration of glucose in the blood rises following the digestion of a meal, what is the hormonal response?
  - A) Both glucagon and insulin are increased.
  - B) Glucagon is released but not insulin.
  - C) Insulin is released but not glucagon.
  - D) Neither glucagon nor insulin is released.
  - E) The total amount of insulin in the blood decreases.

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17. Which of the following glands secretes hormones that enable the body to respond to stress?  
 A) pancreas      B) adrenal      C) pineal      D) salivary      E) parathyroid
18. Which of the following is/are mostly involved in the regulation of salt and water balance?  
 A) mineralocorticoids      B) glucocorticoids      C) androgens      D) melatonin      E) oxytocin
19. Which of the following may be a consequence of excessive secretion of parathyroid hormone?  
 A) convulsive contractions of skeletal muscles      B) gigantism  
 C) loss of calcium from the blood      D) exhaustion of the immune system  
 E) loss of calcium from the bone
20. One steroid hormone causes different effects in different cells by  
 A) activating different genes.      B) binding to different receptors.      C) acting on different organelles.  
 D) activating different enzymes.      E) activating different second messengers.
21. What is the hepatic portal vessel?  
 A) the largest lymphatic vessel in the body, taking wastes to the kidneys  
 B) a large blood vessel that connects the two kidneys  
 C) a large lymphatic vessel that transports substances to the kidneys for secretion into the distal tubule  
 D) a large vessel that carries blood from the intestines to the liver  
 E) a large vessel that transports blood to the kidneys from the heart
22. Where along the kidney tubule is glucose reabsorbed from the filtrate back into the blood?  
 A) collecting duct      B) proximal tubule      C) Bowman's capsule      D) loop of Henle      E) distal tubule
23. Through which of these structures does urine enter the renal pelvis?  
 A) ureter      B) urethra      C) collecting duct      D) distal tubule      E) proximal tubule
24. What is the main component of the white material in bird droppings?  
 A) urea      B) ammonia      C) lactic acid      D) sodium chloride      E) uric acid
25. Which of the following statements is *not* true of freshwater fish?  
 A) They do not drink.      B) They pump solutes in through their gills.  
 C) They lose water through the gills by osmosis.      D) They produce large volumes of dilute urine.  
 E) They lose some solutes in their urine
26. Which of the following is *not* an effect of interleukin-2?  
 A) to stimulate helper T cells      B) to stimulate cytotoxic T cells  
 C) to stimulate antigen-presenting cells      D) to stimulate b cells
27. Which of the following substances does a cytotoxic T cell secrete in order to destroy a target cell?  
 A) interferon      B) complement      C) antibodies      D) interleukin-2      E) perforin

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28. Monoclonal antibodies are produced
- A) by cells that are formed when a B cell is fused to a tumor cell.      B) when a female is pregnant.  
 C) when an animal is infected by a single type of pathogen.  
 D) by cells that are formed when a B cell is fused to a T cell.      E) by cancerous tumors.
29. When in its cycle does a b cell first exhibit its particular surface antibody?
- A) after the memory cell giving rise to it divides      B) before it ever encounters an antigen  
 C) after it encounters several antigens      D) after it encounters a single antigen  
 E) before the stem cell giving rise to it divides
30. The transfer of antibodies from breast milk to an infant is an example of \_\_\_\_ immunity.
- A) nonspecific      B) passive      C) humoral      D) active      E) cell-mediated
31. The cardiac output is defined as the volume of blood pumped by the \_\_\_\_ each minute.
- A) heart      B) left atrium      C) right atrium      D) left ventricle      E) right ventricle
32. During which phase of the heartbeat does the heart fill with blood?
- A) interphase      B) resting phase      C) diastole      D) atrial phase      E) systole
33. Arteries are distinguished from vein based on all of the following features *except*
- A) the direction of blood flow relative to the heart.      B) the structure of their walls.  
 C) the amount of oxygen present in the blood.      D) the blood pressure.  
 E) all of the above.
34. Which kind of vessel has the lowest blood velocity?
- A) arteries      B) arterioles      C) capillaries      D) venules      E) veins
35. Which statement about the human heart is true?
- A) The walls of the right ventricle are thicker than the walls of left ventricle.  
 B) Blood flowing through artioventricular valves is always deoxygenated blood.  
 C) The second heart sound is due to the closing of the semilunar valve.  
 D) Blood returns to the heart from the lungs in the vena cava.  
 E) During systole the artioventricular valve is open and the semilunar valve is closed.
36. Which of the following quantities do the medullary breathing centers directly sense and respond to?
- A) blood pH and CO<sub>2</sub> concentration      B) blood O<sub>2</sub> concentration      C) alveolar CO<sub>2</sub> concentration  
 D) alveolar O<sub>2</sub> concentration      E) blood pH and O<sub>2</sub> concentration
37. Which of the following features do all gas exchange systems have in common?
- A) The exchange surfaces are moist.      B) They are enclosed within ribs.  
 C) They are maintained at a constant temperature.      D) They are exposed to air.  
 E) They are found only in animals.

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38. The most basic reason why animals need a continuous supply of oxygen is that  
 A) it is needed to make carbon dioxide.      B) without it, animals cannot synthesize protein.  
 C) without it, animals cannot dispose of carbon dioxide.      D) it is needed to carry out glycolysis.  
 E) without it, animals cannot obtain enough energy from their food.
39. Inhalation in humans is achieved by  
 A) contraction of muscles in the lungs.      B) contraction of the diaphragm.  
 C) relaxation of the diaphragm and chest muscles.      D) relaxation of the diaphragm.  
 E) contraction of the diaphragm and chest muscles.
40. Most CO<sub>2</sub> is transported to the lungs  
 A) dissolved in the plasma.      B) attached to hemoglobin.      C) as carbonic anhydrase.  
 D) as carboxyl.      E) as carbonic acid.
41. Absorption of water is one major function of which of the following structures?  
 A) cecum      B) esophagus      C) colon      D) rectum      E) appendix
42. The epithelial cells lining the intestine have surface projections that increase the area for absorption. These projections are called  
 A) villi.      B) cilia.      C) microvilli.      D) rugae.      E) flagella.
43. The parietal cells of the stomach's gastric glands secrete  
 A) mucus.      B) pepsinogen.      C) pepsin.      D) hydrochloric acid.      E) lactic acid.
44. The esophagus and trachea both open into the  
 A) pharynx.      B) posterior oral cavity.      C) posterior nasal cavity.  
 D) larynx.      E) epiglottis.
45. Which of the following choices lists the organs of the bird digestive system in the correct order?  
 A) esophagus, stomach, gizzard, crop, intestine, anus  
 B) esophagus, gizzard, crop, stomach, intestine, anus  
 C) esophagus, crop, stomach, gizzard, intestine, anus  
 D) esophagus, crop, gizzard, stomach, intestine, anus  
 E) esophagus, gizzard, stomach, crop, intestine, anus
46. When the body temperature is too high, which of the following does *not* occur?  
 A) The thermostatic control center of the brain is activated.  
 B) Blood vessels in the skin contract.  
 C) Evaporative cooling occurs.  
 D) Heat radiates from the skin.  
 E) Blood vessels at the body surface fill with warm blood.

臺北醫學大學 92 學年度第一 學期 ~~期中~~ 考試 (試) 命題紙

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47. Nails are a component of the \_\_\_\_\_ system.  
 A) respiratory      B) integumentary      C) muscular      D) skeletal      E) excretory
48. The interior lining of the stomach is  
 A) stratified squamous epithelium.      B) stratified columnar epithelium.  
 C) simple squamous epithelium.      D) simple columnar epithelium.  
 E) loose connective tissue.
49. Which of the following apply to skeletal muscle?  
 A) smooth and involuntary      B) smooth and unbranched      C) striated and voluntary  
 D) smooth and voluntary      E) striated and branched
50. Structure in the living world is organized at hierarchical levels. Which of the following choices lists several of these, from least inclusive to most inclusive?  
 A) cell, molecule, organ, organ system, tissue, organism  
 B) molecule, cell, tissue, organ, organ system, organism  
 C) molecule, cell, organ, organ system, tissue, organism  
 D) cell, molecule, tissue, organ, organ system, organism  
 E) molecule, cell, tissue, organ system, organ, organism

系級	科目	授課教師	考試日期	學號	姓名
保一	普通生物	韓柏樞	93年1月15日第1節		

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簡答題 (Total 11 questions, 3% each)

1. Gause's competitive exclusion principle
2. Climax community
3. Learning type
4. Niche
5. Dominance hierarchy
6. Social behavior
7. Biosphere
8. Limiting factor
9. Survivorship curve
10. Age-structure diagram
11. Carrying capacity