

臺灣綜合大學系統

112 學年度

轉學生聯合招生考試

試 題

類組：B08

科目代碼：B0891

科目名稱：動物結構與功能

※考試開始鈴響前，不得翻閱試題，並不得書寫、畫記、作答※

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第一部份、動物結構 (50 分) (請於答案卷作答,勿寫在試題紙上)

一、選擇題 (20 分, 2 分/題) :

1. 胸腺 (Thymus) 位於動物體的哪一個部位? (A) 縱膈 (Mediastinum); (B) 心包膜腔 (Pericardial cavity); (C) 胸膜腔 (Pleural cavity); (D) 腹膜腔 (Peritoneal cavity); (E) 骨盤腔 (Pelvic cavity)。
2. 下列那一構造位於蝶骨 (Sphenoid bone) 的蝶鞍 (Sella turcica) 內? (A) 下視丘 (Hypothalamus); (B) 松果腺 (Pineal gland); (C) 腦下腺 (Pituitary gland); (D) 副甲狀腺 (Parathyroid gland); (E) 甲狀腺 (Thyroid gland)。
3. 運動員經常受傷斷裂的前十字韌帶 (Anterior cruciate ligament) 與後十字韌帶 (Posterior cruciate ligament), 是位於哪一個關節內? (A) 肩關節 (Shoulder joint); (B) 肘關節 (Elbow joint); (C) 腕關節 (Wrist joint); (D) 髖關節 (Hip joint); (E) 膝關節 (Knee joint)。
4. 脊髓內的錐體束 (Pyramidal tract of spinal cord) 在何處交叉至對側? (A) 中腦 (Midbrain); (B) 小腦 (Cerebellum); (C) 大腦 (Cerebrum); (D) 延髓 (Medulla oblongata); (E) 橋腦 (Pons)。
5. 中樞神經系統內, 下列何者之細胞膜纏繞在神經纖維外形成髓鞘 (Myelin sheath)? (A) 許旺氏細胞 (Schwann cell); (B) 微小膠細胞 (Microglia); (C) 寡樹突膠細胞 (Oligodendrocyte); (D) 室管膜細胞 (Ependymal cell); (E) 星狀膠細胞 (Astrocytes)。
6. 下列那一構造“不”通過腹股溝管 (Inguinal canal)? (A) 睪丸動脈 (Testicular artery); (B) 輸精管 (Vas deferens); (C) 射精管 (Ejaculatory duct); (D) 蔓狀叢靜脈 (Pampiniform plexus of veins); (E) 提睪肌 (Cremaster m.)。
7. 歐迪氏括約肌 (Sphincter of Oddi) 位在: (A) 胃 (Stomach); (B) 十二指腸 (Duodenum); (C) 空腸 (Jejunum); (D) 迴腸 (Ileum); (E) 盲腸 (Caecum)。
8. 骨骼肌收縮時, 肌漿網 (Sarcoplasmic reticulum) 中, 何種離子會釋放至肌漿 (Sarcoplasm) 中? (A) 鈣離子 (Ca^{2+}); (B) 鈉離子 (Na^{+}); (C) 鉀離子 (K^{+}); (D) 鎂離子 (Mg^{2+}); (E) 氯離子 (Cl^{-})。
9. 口輪匝肌 (Orbicularis oris m.) 肌束屬於那一種的排列方式? (A) 平行 (Parallel); (B) 單側羽毛狀 (Unipennate); (C) 雙側羽毛狀 (Bipennate); (D) 環狀 (Circular); (E) 會聚式 (Convergent)。
10. 下肢的淋巴液經淋巴管收集後, 匯集至胸管 (Thoracic duct), 最後於何處注入血液中? (A) 右鎖骨下靜脈 (Right subclavian v.) 和外頸靜脈 (External jugular v.) 會交處; (B) 右鎖骨下靜脈 (Right subclavian v.) 和內頸靜脈 (Internal jugular v.) 會交處; (C) 左鎖骨下靜脈 (Left subclavian v.) 和外頸靜脈 (External jugular v.) 會交處; (D) 左鎖骨下靜脈 (Left subclavian v.) 和內頸靜脈 (Internal jugular v.) 會交處; (E) 上腔靜脈 (Superior vena cava)。

二、填充及填圖題 (20 分, 2 分/格) :

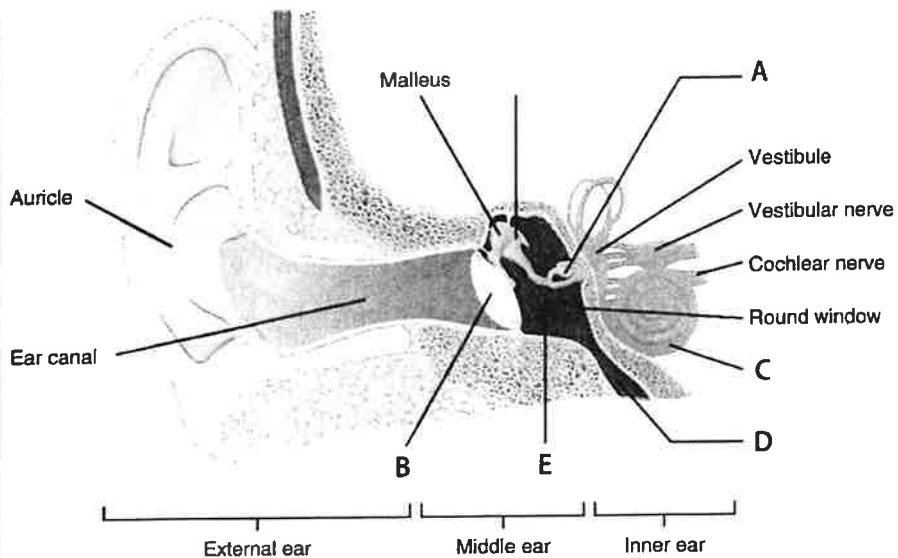
1. 肝臟的肝三合管 (Hepatic triad) 包含肝門靜脈 (Hepatic portal vein)、
_____ 及 _____。
2. 腦脊膜 (Meninges) 包含 _____、
_____ 及 _____ 等三層構造。

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3. 請填入下方耳朵 (Ear) 示意圖所指的構造名稱。



- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

三、簡答題 (10 分)

1. 請條列出與咀嚼 (Mastication) 有關的肌肉及它們的神經支配。

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第二部份：動物功能(50分)

壹、配合題：從下面的方框內選擇一個最適合使用的字詞來填入空格以完成句子，每個字詞只能使用一次；請於答案卷上作答，於本試題紙上作答者，不予計分。(每格 1.5 分，共 46.5 分)

Adrenal cortex	Hypoglossal nerve	Renal medulla
Adrenal medulla	Hypothalamus	Repolarization
Ammonia	Liver	Residual volume
Aorta	Loop of Henle	Rods
Auditory	Lutein	Ruminants
Calcitonin	Macrophages	Stomach burning
Cardiac output	Mechanoreceptors	Stroke volume
Carnivores	Medulla oblongata	Tau protein
Cones	Menopause	Thermoreceptors
Dark	Mitochondria	Tidal volume
Depolarization	Neutrophils	Urea
Dopamine	Omnivores	Uric acid
Duodenum	Osteoblast	Vasoconstriction
Folate	Osteoclasts	Vasodilation
Gallbladder	Oxidative fibers	Vital capacity
Glutamate	Pancreas	White
Glycolytic fibers	Pituitary gland	Amyloid beta protein
Golgi body	Pons	Distal convoluted tubule
Gustatory	Puberty	Glossopharyngeal nerve
Heartburn	Pulmonary vein	Parasympathetic nervous system
Hippocampus	Rabbits	Parathyroid hormone
Hyperpolarization	Renal cortex	Sympathetic nervous system

- _____ conduct coprophagy, to have food pass through alimentary canal two times for obtaining more crucial nutrients.
- _____ has the greatest oxygen content and delivers oxygen to heart, then systemic circulation starts.
- _____ is the amount of blood pumped from the left ventricle during each contraction.
- _____ originates in the medulla oblongata, which controls the muscles of the tongue for speech and swallowing.
- After complete a full expiration, there is a volume of gas remain in the lung, which is called _____.
- Bile salts break fats into fatty acids, and are concentrated in _____ via water reabsorption.
- Capsaicin activates _____, so we feel hot easily while having spicy dishes.
- Cardiovascular and respiratory systems connect together in _____, where regulates blood pressure and breathing unitedly.
- Cerebellum plays a vital role in balance control and _____ processing.
- Comparing to human, an eagle has higher proportion of _____ in its retina.

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11. Cortisol has an important role in the stress response, and is released from _____, which is triggered by adrenocorticotrophic hormone from _____.
12. Enzymes include trypsinogen and chymotrypsinogen are secreted for protein digestion, which are activated in _____.
13. Feline are _____, which require adequate taurine in their diets and make energy from gluconeogenesis.
14. If the lower esophageal sphincter is not working properly, the food and liquid move from stomach to lower end of esophagus, and the painful symptom is called _____.
15. In bone injury area, _____ will dissolve the old and damaged bone cells.
16. In desert animals, like camels, their _____ are longer for recovering water and sodium chloride, which results in thicker _____ and concentrated urine production.
17. In the innate immunity, _____ phagocytose bacteria, produce cytokines, and repair damaged tissues.
18. Neurofibrillary tangles is a pathological hallmark of Alzheimer's disease, which is related to impaired accumulation of _____.
19. Nitric oxide relaxes smooth muscle and leads to _____, which is a mechanism of many cardiovascular drugs.
20. Sodium ions flow into the cell and initiate an action potential, and this phase is called _____.
21. Taking daily supplement of _____ is recommended to pregnant women for preventing neural tube defect.
22. The activity of _____ promotes erection of genitalia.
23. The breast muscles of a turkey are _____, because they are used for flight within a very short duration, which is composed of _____.
24. The cellular respiration produces ATP with glucose, which is taken place in _____.
25. The estrogen level is elevated in _____, so secondary sex characteristics develop in a female.
26. The most abundant neurotransmitter in brain and central nervous system is _____.
27. The nitrogenous wastes in reptiles are excreted as _____ with more energetically expensive, which is relatively nontoxic and insoluble in water.
28. When vitamin D is low, the absorption of calcium is insufficient, so _____ is active to receive more calcium for the bone.

貳、填充題：請於答案卷上寫出最適合放入空格內的數字來完成句子；於本試題紙上作答者，不予計分。(共 3.5 分)

1. Each hemoglobin is able to carry up to _____ oxygen molecules. (1 分)
2. A German Shepherd has a pulse rate of 108 beats per minute, a systolic blood pressure of 132 mmHg, and a diastolic blood pressure of 75 mmHg; so this dog's mean arterial pressure is _____ mmHg. (2.5 分)