

科目名稱	動物結構與功能	類組代碼	B08
		科目碼	B0891
※本項考試依簡章規定各考科均「不可以」使用計算機		本科試題共計 3 頁	
<p>單元一、動物生理</p> <p>一、單選題(每題 2 分,共 20 分) 請於答案卷上作答,否則不予計分</p> <p>1. If alveolar ventilation is 4200 mL/min, respiratory frequency is 12 breaths per minute, and tidal volume is 500 mL. what is the anatomical-dead-space ventilation? (A) 1800 mL/min (B) 6000 mL/min (C) 350 mL/min (D) 1200 mL/min</p> <p>2. Which of the following is a component of the renal response to metabolic acidosis? (A) reabsorption of H⁺ (B) secretion of HCO₃⁻ into the tubular lumen (C) secretion of ammonium into the tubular lumen (D) secretion of glutamine into the interstitial fluid</p> <p>3. Which of the following will not lead to a diuresis? (A) excessive sweating (B) central diabetes insipidus (C) nephrogenic diabetes insipidus (D) excessive water intake</p> <p>4. Untreated type 1 diabetes mellitus is characterized by (A) decreased sensitivity of adipose and skeletal muscle cells to insulin. (B) higher-than-normal plasma insulin concentration. (C) loss of body fluid due to increased urine production (D) age-dependent onset (only occurs in adults).</p> <p>5. Which is not a function of insulin? (A) to stimulate amino acid transport across cell membranes (B) to inhibit hepatic glucose output (C) to inhibit glucagon secretion (D) to stimulate lipolysis in adipocytes.</p> <p>6. Hematocrit is increased (A) when a person has a vitamin B12 deficiency (B) by an increase in secretion of erythropoietin (C) when the number of white blood cells is increased. (D) by a hemorrhage</p>			

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7. Which is not a symptom of Cushing's disease?

- (A) high blood pressure
- (B) bone loss
- (C) suppressed immune function
- (D) goiter

8. Inhibition of which enzyme/enzymes would inhibit the conversion of arachidonic acid to leukotrienes?

- (A) cyclooxygenase
- (B) adenylyl cyclase
- (C) lipoxygenase
- (D) phospholipase A2

9. Which of the following can be used to synthesize glucose by gluconeogenesis in the liver?

- (A) fatty acid
- (B) triglyceride
- (C) glycerol
- (D) glycogen

10. Which of the following is an opsonin?

- (A) IL-2
- (B) C1 protein
- (C) C3b protein
- (D) C-reactive protein

二、簡答題(共 30 分)

1. List the four causes of hypoxic hypoxia. (8 分)
2. Please list the body's major buffer system. (6 分)
3. What two hormones alter the basal metabolic rate? (4 分)
4. List three ways in which clotting is limited. (6 分)
5. Please list three major classes of plasma protein. (6 分)

單元二、動物結構

一、單選題(20分)

1. 肝臟組織的三合管 (Portal triad) 不包括：(A) 膽管 (bile duct); (B) 肝動脈的小分枝; (C) 肝門靜脈的小分枝; (D) 中央靜脈 (central v.)。
2. 黑色素細胞 (melanocytes) 位於表皮的哪一層？(A) 角質層 (stratum corneum); (B) 透明層 (stratum lucidum); (C) 顆粒層 (stratum granulosum); (D) 棘狀層 (stratum spinosum); (E) 基底層 (stratum basale)。
3. 膝關節 (Knee joint) 屬於下列何種關節？(A) 滑動關節 (gliding joint); (B) 鞍關節 (saddle joint); (C) 屈戌關節 (hinge joint); (D) 髁狀關節 (condylar joint); (E) 球窩關節 (ball-and-socket joint)。

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4. 下列那一肌肉可讓動物產生吸吮的動作？(A)頰肌 (buccinator m.); (B)口輪匝肌 (orbicularis oris m.); (C)顴骨肌 (zygomaticus m.); (D)上唇舉肌 (levator labii maxillaris m.); (E)頰肌 (mentalis m.)。
5. 下列段位的脊椎何者具橫突孔 (transverse foramen)的構造？(A)頸椎 (cervical vertebra); (B)胸椎 (thoracic vertebra); (C)腰椎 (lumbar vertebra); (D)薦椎 (sacral vertebra); (E)尾椎 (caudal vertebra)。
6. 使聲門(glottis)關閉的肌肉：(A)後環杓肌 (posterior cricoarytenoid m.); (B)環甲肌 (cricothyroid m.); (C)外環杓肌 (lateral cricoarytenoid m.); (D)會厭舌骨肌 (hyoepiglotticus m.); (E)聲帶肌 (vocalis m.)。
7. 神經膠細胞(glial cell)中，何者具有吞噬功能之功能？(A)微小膠細胞 (microglia); (B)寡樹突膠細胞 (oligodendrocyte); (C)星形膠細胞 (astrocyte); (D)室管膜細胞 (ependymal cell); (E)衛星細胞 (satellite cell)。
8. 脾動脈(splenic artery)是由下列哪條血管直接分支而來？(A)腹主動脈 (abdominal aorta); (B)腹腔動脈幹 (celiac trunk); (C)肝總動脈 (common hepatic a.); (D)上腸繫膜動脈 (superior mesenteric a.); (E)下腸繫膜動脈 (inferior mesenteric a.)。
9. 腦脊髓液(cerebrospinal fluid)不分佈於下列那一區域？(A)側腦室 (lateral ventricle); (B)硬膜下腔 (subdural space); (C)蛛網膜下腔 (subarachnoid space); (D)脊髓中央管 (central canal of spinal cord); (E)小腦延腦池 (cerebellomedullary cistern)。
10. 下列何一條腦神經損傷可導致舌尖部位的味覺喪失？(A)三叉神經 (trigeminal n.); (B)顏面神經 (facial n.); (C)舌咽神經 (glossopharyngeal n.); (D)迷走神經 (vagus n.); (E)舌下神經 (hypoglossal n.)。

二、填充題(10分) 請於答案卷上作答，否則不予計分

1. 直接注入右心房 (right ventricle)的血管有_____、_____及_____。
2. 參與瞳孔光反射 (pupillary light reflex)的腦神經包含_____及_____。

三、簡答題(20分)

1. 讓顳下頷關節 (Temporomandibular joint)咬合的肌肉有那些?它們的神經支配?(12分)
2. 試描述橫膈 (Diaphragm)的型態及作用?穿過橫膈的構造有那些?(8分)