

臺灣綜合大學系統 113 學年度學士班轉學生聯合招生考試試題

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所有考科均「不可」使用計算機。

本科試題共計 4 頁

“答案勿在試題紙上作答，請依序寫在答案卷上”

第一部份：動物結構(50分)

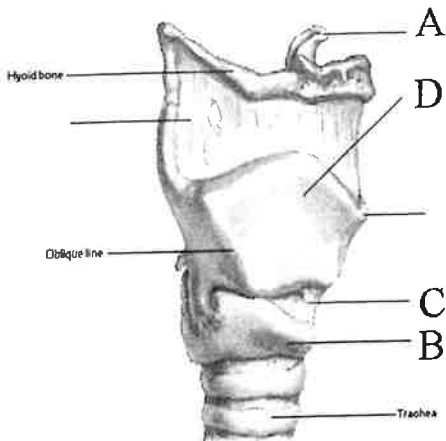
壹、單選題(20分, 2分/題)：

1. 下頷骨(mandible)的那一部分參與形成顳下頷關節(Temporomandibular joint, TM joint)？(A)髁狀突(Condylar process)；(B)顴突(Zygomatic process)；(C)齒槽突(Alveolar process)；(D)冠狀突(Coronoid process)；(E)角突(Angular process)。
2. 下列何者屬於車軸關節(pivot joint)？(A)肘關節(Elbow joint)；(B)膝關節(Knee joint)；(C)肩關節(Shoulder joint)；(D)近端橈尺關節(Proximal radioulnar joint)；(E)近端脛腓關節(Proximal tibiofibular joint)。
3. 下列何者有助於分娩時促使子宮強力收縮？(A)人類絨毛膜性腺激素(Human chorionic gonadotropin, HCG)；(B)黃體素(Progesterone)；(C)催產素(Oxytocin)；(D)鬆弛素(Relaxin)；(E)雌激素(Estrogen)。
4. 促進腎小管對水分再吸收的抗利尿激素(ADH)由何者分泌？(A)腎臟(kidney)；(B)腎上腺(adrenal cortex)；(C)腦下腺前葉(adenohypophysis)；(D)腦下腺後葉(neurohypophysis)；(E)甲狀腺(Thyroid gland)。
5. 促使膀胱逼尿肌(detrusor m.)收縮的神經是：(A)生殖股神經(genitofemoral nerve)；(B)交感神經(sympathetic nerve)；(C)陰部神經(pudendal nerve)；(D)副交感神經(parasympathetic nerve)；(E)閉孔神經(obturator nerve)。
6. 黑色素細胞(Melanocytes)位於表皮(Epidermis)的哪一層？(A)基底層(stratum basale)；(B)棘狀層(stratum spinosum)；(C)透明層(stratum lucidum)；(D)顆粒層(stratum granulosum)；(E)角質層(stratum corneum)。
7. 下列何者可產生吸吮的動作？(A)頰肌(Buccinator m.)；(B)顴大肌(Zygomaticus major m.)；(C)上唇提肌(Levator labii superioris m.)；(D)下唇降肌(Depressor labii inferioris m.)；(E)口輪匝肌(Orbicularis oris m.)。
8. 雄性動物的睪丸中那一種細胞可以製造男性荷爾蒙(testosterone)？(A)賽托利氏細胞(Sertoli cells)；(B)雷迪格細胞(Leydig cells)；(C)鞘膜細胞(theca cells)；(D)顆粒細胞(granulosa cells)；(E)初級精母細胞(Primary spermatocyte)。
9. 聲音在外耳道(external auditory meatus)的傳導方式是以何種傳導？(A)空氣傳導；(B)液體傳導；(C)電位傳導；(D)機械傳導；(E)磁場傳導。
10. 分隔胸腔(Thoracic cavity)與腹腔(Abdominal cavity)的肌肉是：(A)腹直肌(Rectus abdominis m.)；(B)腹外斜肌(External oblique m.)；(C)橫膈(Diaphragm)；(D)腹橫肌(Transverse abdominis m.)；(E)斜角肌(Scalene m.)。

貳、填充題(14分, 2分/格)：

1. 十二指腸(duodenum)管壁的四層構造，由內而外分別是\_\_\_\_\_、  
\_\_\_\_\_、肌肉層(muscle layer)、\_\_\_\_\_。
2. 喉(larynx)的骨架(如下圖,側面觀)，請填入各構造之名稱：

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- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_
- D. \_\_\_\_\_

參、簡答題(16分)

1. 請簡述腎上腺皮質(adrenal cortex)的分層?各分泌何種激素?(10分)
2. 動物體內的軟骨組織(cartilage)有那些種類?(6分)

背面有題，請繼續作答。

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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 2 分，共 40 分)

Active transport	Glutamate	Pulmonary artery
Angiotensin	Glycolysis	Pulmonary vein
Calmodulin	Hemoglobin	Rectum
Carnivore	Herbivore	Renal medulla
Cecum	Human chorionic gonadotrophin	Renal pelvis
Colon	Insulin	Ribosome
Conjunctiva	Liver	Serotonin
Cornea	Myoglobin	Suprachiasmatic nucleus
Dopamine	Nucleus tractus solitarius	Tonsil
Endoplasmic reticulum	Oval window	Tropomyosin
Endoskeleton	Oxidation	Troponin
Exoskeleton	Passive transport	Trypsin
Gallbladder	Pharynx	Tympanic membrane
Gamma-aminobutyric acid	Progesterone	Vasopressin

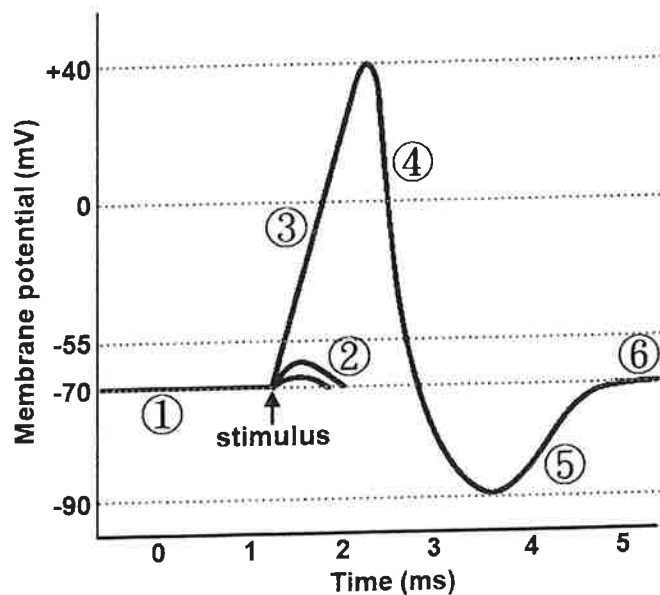
- \_\_\_\_\_ is a crucial protein found in striated muscles as it carries, stores, and supplies oxygen to the cells in these regions.
- \_\_\_\_\_ reduces urine production by promoting water reabsorption in the kidneys, thereby conserving the body's fluid volume.
- \_\_\_\_\_ refers to the fundamental movement of molecules within the cells along the concentration gradient without requiring any energy input.
- A \_\_\_\_\_ is a tiny, granular, membrane-less organelle in the cytosol that synthesizes proteins by translating the genetic information from messenger RNA into functional proteins.
- A long-distance runner has more slow-twitch fibers and uses \_\_\_\_\_ to produce energy.
- As a primary neurotransmitter, \_\_\_\_\_ plays an inhibitory role in the central nervous system.
- As one of the neurodegenerative disorders, Parkinson's disease is marked by neurons in the brain turning impaired, resulting in less production of \_\_\_\_\_, which causes uncontrollable movements.
- As part of the immune system, each \_\_\_\_\_ swells during a viral infection, leading to the patient having a sore throat and feeling pain when swallowing.
- Bile is a digestive juice that breaks down large lipid droplets into smaller globules, which is made by the \_\_\_\_\_.
- Chitin is a structural polysaccharide found in the \_\_\_\_\_ of arthropods and the cell wall of many fungi, and is notable for its absence in vertebrates.

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- During pregnancy, \_\_\_\_\_ levels remain high to prevent uterine contractions, thereby avoiding preterm labor, and to prepare for breastfeeding.
- In smooth muscle, the contraction is initiated by the binding of calcium ions to \_\_\_\_\_.
- Microorganisms in the cecum facilitate cellulose fermentation, leading to this region's enlargement in an \_\_\_\_\_.
- The \_\_\_\_\_ has the greatest carbon dioxide content and delivers deoxygenated blood away from the heart.
- The \_\_\_\_\_ is a lower part of the large intestine that functions as a temporary site for feces storage and controls defecation.
- The \_\_\_\_\_ is composed of proteins and cells with no blood vessels to facilitate proper light refraction, so the transplant surgery is succeeded easily.
- The \_\_\_\_\_ not only sends sound from the air to the ossicles, but also secures the middle ear against debris and bacteria.
- The \_\_\_\_\_, located in the anterior part of the hypothalamus, programs the circadian rhythm and directs daily cycles of physiology and behavior.
- The produced urine is stored in the \_\_\_\_\_ before it moves to the bladder.
- Type 1 diabetes mellitus is an autoimmune disease characterized by the destruction of pancreatic beta cells, which are responsible for producing \_\_\_\_\_.

貳、看圖簡答：請於答案卷上作答，於本試題紙上作答者，不予計分。(每題 2 分，共 10 分)



This graph shows the formation of an action potential divided into several steps.

Please use this graph to answer the following questions.

- What is the threshold's membrane potential value (mV)?
- Which step on the graph means depolarization?
- Which ion influx primarily occurs during depolarization?
- Which step on the graph means repolarization?
- Which ion efflux primarily occurs during repolarization?