

科目：解剖學

系組：護理系

年級：二

有關測驗題(選擇題)之命題規定：

1. 未按作答格式(範例)作答者，扣該科總分10分。
2. 未在彌封答案卷內作答者，該科不予計分。

一、單選題 (80%)：每題2分

作答格式：(範例)

1. A	2. E	3. B	4. E	5. C
6. A	7. A	8. D	9. C	10. E

請依照上述範例之格式，以橫式書寫方式將全部答案寫在彌封答案卷第一頁，答案字母請用正楷大寫(A·B·C·D·E)。

1) A section that divides the body on the longitudinal plane into equal right and left parts is called:

- A) oblique
- B) transverse
- C) median (midsagittal)
- D) coronal
- E) frontal

2) Which type of section could be used to separate the thoracic cavity from the abdominopelvic cavity:

- A) coronal    B) transverse    C) dorsal    D) ventral    E) sagittal

3) Which of the following statements is correct regarding the location of the stomach:

- A) the stomach is located in the left upper quadrant
- B) the stomach is located in the right lower quadrant
- C) the stomach is located in the left lower quadrant
- D) the stomach is located in the right upper quadrant
- E) the stomach is located medially

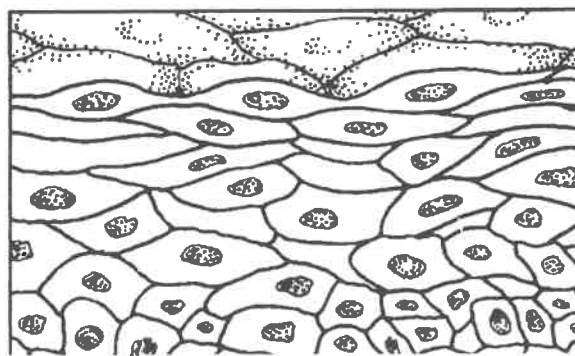


Figure 1

4) The tissue shown in Figure 1 most likely:

- A) contains a matrix
- B) covers and lines body surfaces
- C) transmits electrochemical impulses
- D) stores fat
- E) contracts to produce movement

※ 注意：1. 考生須在「彌封答案卷」上作答。

- 5) Which of these cells are amitotic at maturity:
- A) liver cells
  - B) epithelial cells
  - C) cardiac muscle cells
  - D) esophagus cells
  - E) intestinal cells

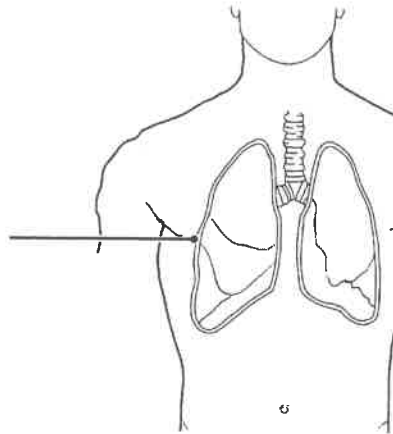


Figure 2

- 6) The membrane shown in Figure 2 is:
- A) pericardium, a serous membrane
  - B) synovial membrane
  - C) mucous membrane
  - D) cutaneous membrane
  - E) pleura, a serous membrane
- 7) A needle would pierce the epidermal layers of the forearm in which order:
- 1. stratum basale
  - 2. stratum corneum
  - 3. stratum granulosum
  - 4. stratum lucidum
  - 5. stratum spinosum
- A) 2, 4, 3, 5, 1    B) 1, 3, 5, 2, 4    C) 2, 3, 4, 1, 5    D) 2, 3, 5, 1    E) 1, 5, 3, 4, 2
- 8) The femur, tibia, humerus, and radius are all classified as:
- A) flat bones
  - B) long bones
  - C) sesamoid bones
  - D) irregular bones
  - E) compact bones
- 9) Bone growth that occurs due to weight lifting at age 40 is most likely:
- A) occurring at the epiphyseal plates
  - B) appositional ossification
  - C) endochondrial ossification
  - D) none since bones do not grow after adolescence
  - E) periosteum

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

科目：解剖學

系組：護理學系

年級：二

- 10) The axial skeleton contains:
1. skull
  2. arms and legs
  3. ribs and sternum
  4. vertebrae
  5. pelvic girdles
- A) 2, 3, 4, 5    B) 1, 3, 4, 5    C) 2, 5    D) 1, 3, 4    E) 1, 2, 3, 5
- 11) The suture found between the parietal and temporal bone is the:
- A) sagittal suture
  - B) lambdoid suture
  - C) coronal suture
  - D) squamous suture
  - E) both the squamous suture and the sagittal suture
- 12) The fibrous connections between the bones of a fetal skull are:
- A) sinuses
  - B) fontanelles
  - C) palate
  - D) crista galli
  - E) alveolar margins
- 13) Which is the correct order of ribs, from superior to inferior:
- A) false ribs, floating ribs, true ribs
  - B) floating ribs, true ribs, false ribs
  - C) true ribs, false ribs, floating ribs
  - D) true ribs, floating ribs, false ribs
  - E) floating ribs, false ribs, true ribs

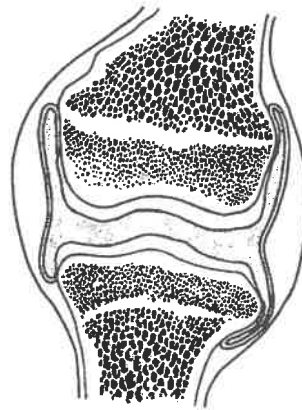


Figure 3

- 14) The type of joint shown in Figure 3 is:
- A) a cartilaginous joint
  - B) a synovial joint
  - C) a fibrous joint
  - D) a suture
  - E) an amphiarthrotic joint

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

科目：解剖學

系組：護理學系

年級：二

15) Four of the five answers listed below are parts of the same anatomical area. Select the exception.

- A) fibula      B) scapula      C) humerus      D) radius      E) clavicle

16) Place these structures of the skeletal muscle in order from largest to smallest:

1. fascicle
2. myofilament
3. muscle fiber (cell)
4. myofibril
5. sarcomere

- A) 3, 1, 2, 4, 5    B) 1, 3, 4, 5, 2    C) 1, 4, 3, 2, 5    D) 3, 2, 5, 4, 1    E) 2, 5, 4, 3, 1

17) An individual with damage to the radial nerve would be unlikely to contract the

- A) coracobrachialis.      B) pronator teres.  
C) biceps brachii.      D) extensor digitorum.

18) The sternal angle is used to locate

- A) rib 2. B) the bifurcation of the trachea.  
C) the cardiac sphincter of the stomach. D) the apex of the heart.

19) The thenar eminence is located at the

- A) tips of the fingers.  
B) base of the little finger.  
C) base of the thumb.  
D) bulges formed by the gluteal muscles (commonly known as the "cheeks").

20) The neuron processes that normally receive incoming stimuli are called:

- A) dendrites  
B) neurolemmas  
C) axons  
D) Schwann cells  
E) satellite cells

21) Collections of nerve cell bodies inside the CNS are called:

- A) ganglia  
B) tracts  
C) tracts or ganglia  
D) nerves  
E) nuclei

22) Sally has a brain injury; she knows what she wants to say but can't vocalize the words. The part of her brain that deals with the ability to speak is the:

- A) longitudinal fissure  
B) primary motor area  
C) central sulcus  
D) Broca's area  
E) gyrus

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

23) The midbrain, pons, and medulla oblongata are housed in the:

- A) hypothalamus
- B) cerebellum
- C) diencephalon
- D) pineal gland
- E) brain stem

24) Which one of the following is the correct sequence in connective tissue sheaths, going from outermost to innermost layer:

- A) endoneurium, epineurium, perineurium
- B) perineurium, epineurium, endoneurium
- C) perineurium, endoneurium, epineurium
- D) epineurium, endoneurium, perineurium
- E) epineurium, perineurium, endoneurium

25) Each spinal nerve branches into a ventral and dorsal:

- A) root B) ramus C) ganglion D) tract E) plexus

26) Which layer of the eye contains rods and cones:

- A) iris B) retina C) choroid D) sclera E) optic nerve

27) The gel-like substance that reinforces the eyeball and prevents it from collapsing inward is the:

- A) ciliary body
- B) canal of Schlemm
- C) vitreous humor
- D) aqueous humor
- E) choroid coat

28) The pathway of vibrations through the ossicles from the tympanic membrane, or eardrum, to the oval window is:

- A) malleus, incus, stapes
- B) stapes, malleus, incus
- C) incus, malleus, stapes
- D) malleus, stapes, incus
- E) stapes, incus, malleus

29) Which one of the following areas is NOT a pressure point:

- A) dorsalis pedis artery
- B) posterior tibial artery
- C) renal artery
- D) facial artery
- E) radial artery

30) Which fetal shunt bypasses the lungs by directly connecting the right atrium and the left atrium:

- A) ductus arteriosus
- B) ductus venosus
- C) ligamentum arteriosum
- D) umbilical vein
- E) foramen ovale

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

科目：解剖學

系組：護理學系

年級：二

31) Which of the following blood vessels is a direct branch of the ascending aorta:

- A) right subclavian artery
- B) left coronary artery
- C) right coronary artery
- D) carotid artery
- E) both the right and left coronary arteries

32) When the ventricles contract, the bicuspid (mitral) valve prevents blood from flowing from the:

- A) left ventricle to the left atrium
- B) right ventricle to the right atrium
- C) right atrium to the left atrium
- D) left ventricle to the right ventricle
- E) left atrium to the right atrium

33) Which valve guards the base of the aorta and opens when the ventricles are contracting:

- A) bicuspid valve
- B) mitral valve
- C) tricuspid valve
- D) aortic semilunar valve
- E) pulmonary semilunar valve

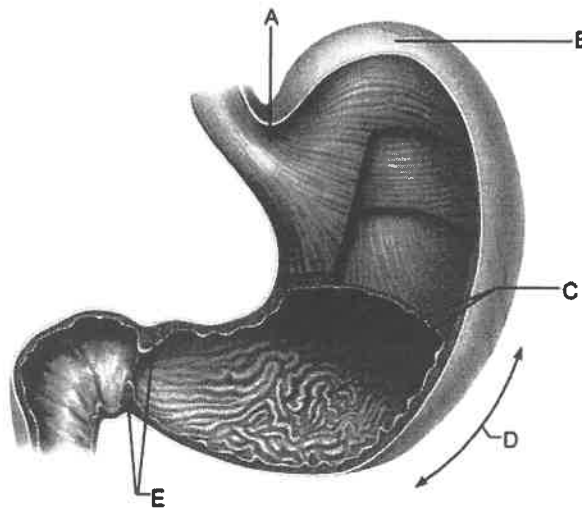


Figure 4

Use the diagram above to answer the following questions.

34) Identify the letter that indicates the curvature where the greater omentum attaches.

- A) A B) B C) C D) D E) E

35) Identify the letter that indicates the fundus of the stomach.

- A) A B) B C) C D) D E) E

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

科目：解剖學

系組：護理學系

年級：二

36) Retroperitoneal organs have a serosa facing the peritoneal cavity and a(n) \_\_\_\_\_ on the posterior side embedded in the abdominal wall.

- A) muscularis externa
- B) mesothelium
- C) vasa vasorum
- D) caveolae
- E) adventitia

37) Junction of the transverse and ascending colon.

- A) cecum
- B) haustra
- C) splenic flexure
- D) ileocecal valve
- E) hepatic flexure

38) The region of the lung served by secondary, or lobar, bronchi.

- A) lobule
- B) lingular
- C) cardiac notch
- D) bronchopulmonary segment
- E) lobe

39) The medial opening between the vocal folds through which air passes.

- A) rima glottidis
- B) cricothyroid ligament
- C) glottis
- D) thyrohyoid membrane
- E) vestibule

40) Region of the distal tubule that monitors concentration of the filtrate.

- A) collecting duct
- B) mesangial
- C) vasa recta
- D) macula densa
- E) extraglomerular

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

二、填充題 (10%)：每題 2 分

1. The \_\_\_\_\_ is formed by the union of the ductus deferens and seminal vesicles.
2. The uterus consists of the fundus, body, cervix, and \_\_\_\_\_.
3. Contraction of the \_\_\_\_\_ in the wall of the spermatic cord raises the testes closer to the body cavity.
4. The bulb of the vestibule and the \_\_\_\_\_ are female erectile bodies.
5. The uterus is composed of three basic layers. The inner layer is the \_\_\_\_\_.

三、簡答題 (10%)

1. Compare and contrast the construction of the bladder and ureter walls. ( 5 分 )
2. Describe all the anatomical changes to the larynx that account for the deeper voice of men compared to women. ( 5 分 )

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。



科目：生理學

系組：護理學系

年級：二

問答題：100 分

1. 請寫出三種 skeletal muscle fibers 的名稱並比較其差異。(10 分)
2. 請寫出哪些變化會刺激 peripheral 和 central chemoreceptors 以調控呼吸?(5 分)
3. 請寫出決定 cardiac output 的因素有哪些?(10 分)
4. Renin 是由哪一個細胞分泌?其釋放的調控機制為何?(10 分)
5. Micelles 在脂肪吸收中的作用是什麼?(10 分)
6. 請詳述在光存在和沒有光的情況下, photoreceptor cells 過極化 (hyperpolarization) 和去極化 (depolarization) 的機制。(10 分)
7. 列出 follicle stimulating hormone 和 luteinizing hormone 對 follicle 的影響。(10 分)
8. 畫出 oxygen-hemoglobin dissociation curve, 並標出靜脈血和動脈血的  $P_{O_2}$ 。詳述 erythrocyte 2,3-diphosphoglycerate 影響此曲線的重要性是什麼?(10 分)
9. 比較神經元上 graded potential 和 action potential 之間的差異。(10 分)
10. 何謂腎臟內的 countercurrent mechanism?請分別寫出其重要性。(10 分)
11. 請解釋為何神經元的 resting membrane potential 不等於  $K^+$  equilibrium potential。(5 分)

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

科目：解剖學

系組：護理學系

年級：三年級

注意事項：

1. 答案請依下列範例，以橫式書寫方式寫在彌封答案卷內。
2. 請標明題號並排列整齊，作答格式(範例)如下：

問答題
1. XXXX
2. XXXX
3. XXXX

3. 未按作答格式(範例)作答者，扣該科總分 10 分。
4. 未在彌封答案卷內作答者，該科不予計分。

問答題(共 15 題): (100%)

1. Name the bones of the skull. Identify which are paired (with the letter P) and which are unpaired (using UP) (10%)
2. List the bones that articulate at each of the four major sutures of the skull. (5%)
3. Identify the heads and all the notches of the radius and ulna, and explain how these bones articulate with each other and with the humerus. (5%)
4. Name the major components of the synovial joint of the knee. (10%)
5. Describe the landmarks used in making a gluteal intramuscular injection. (5%)
6. Compare and contrast the function of the muscles contained in the anterior and posterior compartments of the upper and lower limbs. Explain the embryological reason for the differences. (5%)
7. Describe the muscles and the innervation of these muscles which are important in mastication? (10%)
8. Describe the boundaries of the triangle of auscultation, and explain how a clinician can take advantage of this anatomical feature. (5%)
9. Describe the three meninges of the brain and the space of the circulated cerebrospinal fluid. (5%)
10. Describe the nuclei and functions of the hypothalamus. (10%)
11. Name the three divisions of the trigeminal nerve and the foramina through which they run. (5%)
12. Describe the ventral rami, the terminal branches and the pathway of the sciatic nerve. (5%)
13. Describe the action and innervation of the six extrinsic muscles/ extraocular muscles of the eyeball. (10%)
14. Describe the function of the cardiac skeleton of the heart. (5%)
15. Define the term portal system, and describe the significance of portal-systemic anastomoses. (5%)

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。

科目：生理學

系組：護理學系

年級：三

注意事項：請同學將答案寫在「彌封答案卷」上作答。

問答題：

1. Please describe the structure and function of the pituitary gland (腦下垂體). (15分)
2. There are several ions responsible for the resting membrane potential of neurons (神經的靜止膜電位). Please describe how the two major ions determine resting membrane potential. (15分)
3. Please describe the processes of primary and secondary active transport (主動運輸), including the factors affecting active transport. (12分)
4. Central venous pressure (中央靜脈壓) is an important determinant of venous return and thereby mean arterial pressure. Please describe the four factors that alter central venous return. (12分)
5. There are numbers of reflexes play an important role in regulating motility of digestive tract (消化道的運動). Please describe the reflexes that regulate the gastrointestinal tract motility. (16分)
6. 名詞解釋：(一項5分，共30分)
  - i. Cerebellum
  - ii. Microtubules
  - iii. Parietal cell
  - iv. Photoreceptor
  - v. Voltage-gated ion channel
  - vi. Negative feedback

※ 注意：1.考生須在「彌封答案卷」上作答。

2.本試題紙空白部份可當稿紙使用，試題須隨答案卷繳回。

3.考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。