

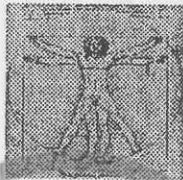
I. 問答題 (共 50%)

- 一、試列表說明骨骼肌、心肌及平滑肌在生理特性上的差異。(9%)
- 二、如何測定心臟輸出 (cardiac output) ? (6%)
- 三、圖示腎小管如何分泌氫離子? (10%)
- 四、說明決定血壓的兩大因素。(6%)
- 五、試說明決定組織間液體 (interstitial fluid) 形成之重要因素。(9%)
- 六、簡述表面張力物質 (surfactant) 對肺功能的影響。(10%)

II. 選擇題 (單選題，請選一個最合適之答案) (共 50%) :

1. (3%) Who drew this painting:

- (A) L. da Vinci;
- (B) C. Monet;
- (C) M. Picasso;
- (D) A. Renoir;
- (E) V. van Gogh.

2. (2%) which hormone acting primary through **membrane receptors**:

- (A) Aldosterone; (B) catecholamine; (C) progesterone; (D) 1,25-hydroxy-vitamin- D_3 ; (E) all of above.

3. (2%) Anti-diuretic hormone (ADH) secretion is stimulated by :

- (A) high blood osmolality; (B) high blood volume; (C) high blood pressure; (D) all of above; (E) none of above.

4. (2%) Which following statement is **CORRECT**? Melatonin:

- (A) secreted during the day time; (B) synthesized from cholesterol; (C) secretion is higher in young people compared to old one; (D) all of above; (E) none of above.

5. (2%) Tom, a 24-year-old man, played a computer game till 11am then go to bed after that. Which hormone would have a higher blood concentration during sleeping from noon to 6pm?

- (A) Cortisol; (B) Testosterone; (C) Parathyroid hormone; (D) Thyroxine; (E) none of above.

6. (2%) Which hormones are **NOT** classified to neurocrines:

- (A) follicle-stimulating hormone (FSH); (B) growth hormone; (C) insulin-like factor 1 (IGF-1); (D) oxytocin; (E) prolactin.

7. (2%) Which following statement is **CORRECT**? The hypothalamus:

- (A) is the body temperature regulation center; (B) is the correlation of emotional states; (C) is the site for leptin synthesis; (D) is the site for growth hormone synthesis; (E) all of above.

8. (2%) Which one of the following stimuli normally activates a receptor that is located on the free nerve ending of a sensory neuron?
(A) Gravity; (B) Light; (C) smell; (D) sound; (E) Taste.
9. (2%) In the sleep-wake cycle, the deep sleep is associated with:
(A) rapid eye movement (REM); (B) Alpha wave; (C) Beta wave; (D) Delta wave; (E) Theta wave.
10. (2%) Lesions within the flocculonodular lobe of the cerebellum prevent an individual from:
(A) Making rapid, alternating movements; (B) Moving smoothly when reaching toward a target; (C) Keeping the limbs still when resting; (D) Grasping an object tightly; (E) Maintaining balance when walking.
11. (2%) Which following statement is **CORRECT**? The thalamus play a key role in:
(A) learning; (B) awareness; (C) coordinating movement; (D) regulating water balance; (E) all of above.
12. (2%) Which following statement is **CORRECT**? The limbic system:
(A) includes hippocampus & amygdale; (B) is responsible for learning and short term memory; (C) is responsible for speech & language; (D) Both (A) and (B); (E) All of above.
13. 何種細胞分泌 gastrin ? (1%)
(A) parietal cells; (B) D cells; (C) G cells; (D) chief cells.
14. 兩個 enteric nervous system 位於腸胃道的哪兩層組織 ? (2%)
① mucosa ② submucosa ③ muscularis externa ④ serosa
(A) ① + ②; (B) ① + ③; (C) ② + ④; (D) ② + ③.
15. 腸胃道的消化酵素 amylase 由何種器官所分泌 ? (2%)
① saliva ② intestine ③ stomach ④ pancreas
(A) ① + ③; (B) ① + ④; (C) ① + ③ + ④; (D) ② + ③ + ④.
16. Gastrointestinal peptides 主要影響消化過程中的何種作用 ? (2%)
① digestion ② absorption ③ motility ④ secretion
(A) ① + ②; (B) ② + ③; (C) ③ + ④; (D) ① + ④.
17. 下列哪些 GI peptides 具有抑制 gastric emptying 的功能 ? (2%)
① gastrin ② secretin ③ motilin ④ cholecystikinin (CCK)
(A) ① + ②; (B) ② + ④; (C) ① + ② + ③; (D) ① + ② + ③ + ④.

18. 何者參與食物中酯類的消化？(2%)
① lipase ② bile acid ③ colipase ④ peptidase
(A) ① + ②; (B) ① + ③; (C) ① + ② + ③; (D) ① + ② + ③ + ④.
19. Bicarbonate 在小腸中主要的生理作用為何？(2%)
(A) 誘導酵素分泌; (B) 促進酵素活化; (C) 促進蠕動; (D) 中和酸性的食糜.
20. 卵巢分泌何種荷爾蒙？(2%)
① estradiol ② testosterone ③ cortisol ④ progesterone
(A) ①; (B) ① + ④; (C) ① + ② + ③; (D) ① + ③ + ④
21. Progesterone 的生理功能不包括：(2%)
(A) 促進受精卵的埋殖 (implantation); (B) 促使基礎體溫升高; (C) 促進子宮收縮; (D) 促進乳腺的發育.
22. Testis 的 Leydig cells 產生 testosterone 主要受何種激素調控？(2%)
(A) LH; (B) FSH; (C) ACTH; (D) CRH.
23. Cortisol 的分泌主要受何種激素的調控？(2%)
① ACTH ② CRH ③ FSH ④ LH
(A) ①; (B) ① + ②; (C) ① + ③ + ④; (D) ① + ② + ③ + ④.
24. Glucagon 由何種細胞所分泌？(2%)
(A) alpha cells; (B) beta cells; (C) D cells; (D) F cells.
25. 吃飽時會產生何種生理作用？(2%)
① glucagon 增加 ② insulin 增加 ③ 促進 glycogenolysis
④ 促進 glycogen 合成.
(A) ① + ③; (B) ① + ④; (C) ② + ③; (D) ② + ④.

試題隨卷繳回