

※本大題請於試卷內之「選擇題作答區」依序作答。

第一部份：選擇題 (單選，每題2分)

1. 公畜主要儲存精子以及精子成熟的位置? (A) Testis (B) Scrotum (C) Seminal vesicle (D) Epididymis (E) Cowper's gland
2. 維持母畜懷孕的主要內分泌素為何? (A) Progesterone (B) FSH (C) LH (D) Testosterone (E) Estradiol
3. 濾泡成熟後何種內分泌素的大量釋出會引發排卵? (A) Progesterone (B) FSH (C) LH (D) Testosterone (E) Estradiol
4. 以下有關泌乳的敘述哪個是正確的 (A) All the dairy cattle including cow and bull can secrete milk (B) Adult dairy cattle produces milk all the year round, never stop (C) Oxytocin produced by pituitary gland can stimulate contraction of myoepithelium in mammary gland (D) Prolactin produced by corpus luteum stimulates lactogenesis of mammary gland (E) The milk formed before parturition called colostrum which is rich in lactose
5. 導致卵巢中黃體退化的主要因子為何?由何處製造? (A) FSH, Pituitary gland (B) PGF 2α , Uterus (C) GnRH, Hypothalamus (D) Estradiol, Ovary (E) Growth Factor, Pituitary gland
6. 以下有關 Estrous cycle 及 Menstrual cycle 的敘述，哪一項是錯的 (A) Horse and sheep are seasonally polyestrous animal (B) Menstrual cycle occurs primarily in human (C) Menstruation, also called menstrual bleeding, is the degeneration of endometrium during the menstrual phase of menstrual cycle (D) The concentration of progesterone is high during the luteal phase of estrous cycle and menstrual cycle (E) Female will allow male to mount during the diestrus of estrous cycle
7. 以下有關 Gametogenesis 的敘述，哪一項是錯的 (A) Gametogenesis is called "spermatogenesis" in male and "oogenesis" in female (B) In oogenesis, one gamete will produce three polar bodies and one ovum (C) In male, one gamete will produce four equal spermatozoa (D) Spermatogenesis begins at birth and continues throughout its life (E) Oogenesis will arrest at metaphase of second meiosis until the cell is fertilized

第二部份：申論題 (配分如各題所示，請於試卷內之「非選擇題作答區」標明題號依序作答。)

1. If the extracellular potassium concentration in a person is increased with no change in intracellular potassium concentration, what would happen to the resting membrane potential and the action potential? (5分)
2. What would vision be like after a drug has destroyed all the cone cells in the retina? (5分)

見背面

3. Please explain why patients given drugs to treat Parkinson's disease sometimes develop symptoms similar to those of schizophrenia? (5分)
4. What happens to the triglyceride concentrations in the plasma and in adipose tissue after administration of a drug that blocks the action of lipoprotein lipase? (5分)
5. Please briefly describe the circadian process in the regulation of sleep circadian rhythm. (5分)
6. 說明在骨骼肌收縮時 (1) 能量之來源 (2) ATP 之功能。(8分)
7. 說明泌尿系統之生理功能。(10分)
8. 說明影響血紅素對氧 affinity 之生理因素。(8分)
9. 說明決定平均動脈壓之生理機制。(15分)
10. 詳細解釋反芻動物進行反芻之意義。(10分)
11. 請舉例說明恆溫動物在預防熱散失(heat loss)時，所採取之溫度調節機轉(包括行為方面之改變)。(10分)

試題隨卷繳回