

中國文化大學 99 學年度轉學招生考試

生命科學系三年級

日期節次：7 月 27 日 第 3 節 13:30-14:50

科目：普通生物學 (125-29)

一、填空题，請寫英文，中文不計分（每 1 題 2 分；共 20 分）：

- ◆ 細胞呼吸過程中，在細胞質內將葡萄糖分解成丙酮酸的過程：_____ (1)。
- ◆ 解釋細胞膜是半流體狀態的模型稱為：_____ (2)。
- ◆ 代謝過程中，將大分子分解成小分子的過程，稱為 _____ (3)，將小分子合成大分子的過程稱為：_____ (4)。
- ◆ Meiosis 和 mitosis 最大的不同是前者的同源染色體配對，稱為 _____ (5) 和同源染色體間的物質交換，稱為 _____ (6)。
- ◆ 細胞有絲分裂的過程中，染色體位在分裂細胞的中央排成列，並與紡錘絲連結的時期，稱為： _____ (7)
- ◆ 減數分裂過程中，同源染色體配對的過程稱為： _____ (8)。
- ◆ A gene located on either sex chromosomes is called a _____ (9)。
- ◆ During the DNA replication, the DNA segments of the lagging strand are called _____ (10)。

填空题(20%) 以下每格 1 分

1. The negative f _____ effect of thyroid secretion can control the amounts of t _____ secretion ; the autonomic nerve system be excited , produces the a _____ action for the organ active .
2. The pH value of blood about _____ , the maintain pH value buffers include carbonate - b _____ system .

3. The N-waste of animal include (1). a _____ of fish , (2). urea of human
And (3) u _____ of insects.
4. The most famous phylum of parasites is Phylum P _____ ,
Include Chinese liver fluke.
5. Gastrpoda always use the r _____ as their tooth to grabs the foods , when
they growth , the organ system will t _____ , then the opening of anus
turn to mouth side. Their shell will c _____ , the most are right
plane.
6. The blood sugar concents of human is _____ mg/100ml , When the
hormone I _____ secrets , the blood sugar change to glycogen , store
in livers , blood sugar lowers. When it too lower , the hormone
g _____ secrets , the blood sugar will increase .
7. The respiratory control by blood _____ concentration. When this gas
increases, blood _____ value will decrease , excite the respiratory
center produces the respiratory motion .
8. In mammals kindey , the glomerulus produces the f _____ function .
In tubules , the r _____ could pick up many H₂O , nutrients and ions ,
Through the surrounding capiliary to blood vessels.
9. The books about evolution wroted by Darwin in 1858 is :
On the o _____ by means of n _____ .

第 / 頁共 3 頁

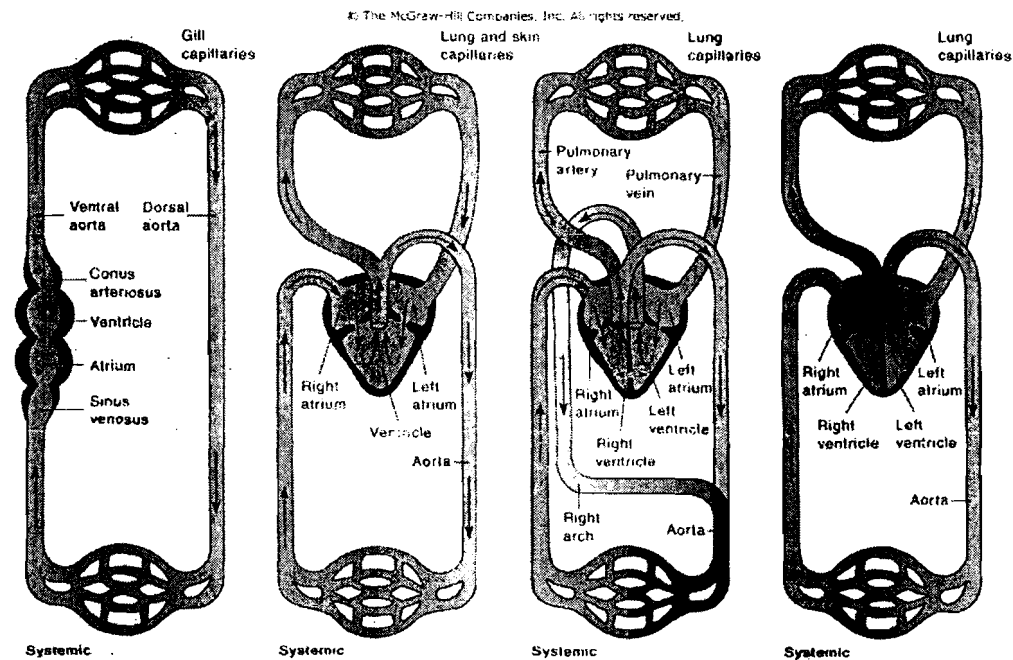
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二、解釋名詞 (30%)

1. Active transport and passive transport (3%)
2. Carvin cycle (3%)
3. splicesome (3%)
4. C3 plant and C4 plant (3%)
5. Mitosis and meiosis (3%)
6. countercurrent mechnism (5%)
7. Hemoglobin (5%)
8. Homology (5%)

三、問答題 25%

1. 試述脊椎動物門的心臟演化過程。(8%)



systemic
capillaries

oxygen
capillaries

capillaries

capillaries

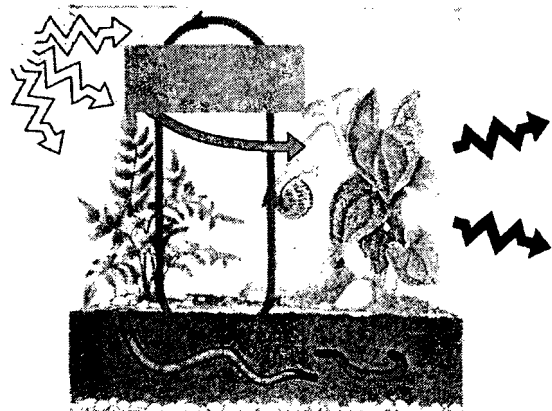
(a) Bony fishes

(b) Amphibians

(c) Most reptiles

(d) Crocodylians, birds,
and mammals

2. 請參考下圖說明生物之能量變化，
及食物鏈之關係。(7%)



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3. 請敘述組成內膜系統的胞器及其功能?(5分)
4. 請敘述循環性磷酸化及非循環性磷酸化的過程。(5分)

