

銘傳大學 98 學年度轉學生招生考試

生物科技學系

7 月 23 日第三節

普通生物學試題

(第 1 頁共 2 頁) (限用答案本作答)

可使用計算機  不可使用計算機

普通生物學 轉學考試題

選擇題：請選出最合適的答案（每題四分，共二十五題；前五題答錯，不倒扣；接著每多答錯一題，倒扣一分）

- Plants store energy as starches; animals store energy as \_\_\_\_\_.  
A. glucose  
B. dextran  
C. glucagon  
D. cellulose  
E. glycogen
- If one strand of DNA is 5'-CGGTAC-3', the corresponding strand would be \_\_\_\_\_.  
A. 5'-GTACCG-3'  
B. 5'-CGGTAC-3'  
C. 5'-CTAGGC-3'  
D. 5'-GCCATG-3'  
E. 5'-CATGGC-3'
- The function of the nucleolus is.  
A. to manufacture polypeptides  
B. to manufacture ribosomal RNA  
C. to manufacture DNA  
D. to transcribe mRNA  
E. to store chromatin
- The overall purpose of the Calvin cycle in photosynthesis is to:  
A. generate molecules of ATP  
B. generate NADP  
C. give off oxygen for animal use  
D. build organic (carbon) molecules  
E. both A and B are correct
- The proper sequence, beginning to end, for the stages of mitosis is:  
A. prophase-metaphase-anaphase-telophase  
B. anaphase-metaphase-telophase-prophase  
C. anaphase-prophase-metaphase-telophase  
D. telophase-prophase-metaphase-anaphase  
E. prophase-anaphase-metaphase-telophase
- The transfer of genetic information from DNA to RNA is called  
A. translation.  
B. transcription.  
C. initiation.  
D. recombination.  
E. transformation.
- A group of DNA nucleotides that contains the information to produce a single protein is a  
A. promoter.  
B. enhancer.  
C. gene.  
D. codon.  
E. base.
- The site where ribosome attaches to the bacterial mRNA to start the synthesis of protein is called  
A. TATA box.  
B. RBS.  
C. exon.  
D. promoter.  
E. UTR.
- Pollen grains develop in the \_\_\_\_\_ and are trapped by the \_\_\_\_\_.  
A. anther.....ovary  
B. carpel.....stamen  
C. anther..... stigma  
D. anther.....stamen  
E. stigma.....anther
- All of the DNAs within a cell nucleus constitute its  
A. chromosome.  
B. genome.  
C. proteome.  
D. chromatin.  
E. transcriptome.
- The nervous system is produced by \_\_\_\_\_.  
A. the ectoderm  
B. the endoderm  
C. the mesoderm  
D. all of the germ layers  
E. partial by ectoderm and partial by endoderm
- In plant life cycle, multicellular haploid plants called gametophytes produce gametes by \_\_\_\_\_.  
A. mitosis  
B. meiosis  
C. multiplication  
D. binary fission  
E. fertilization
- Most crop plants acquire their nitrogen mainly in the form of \_\_\_\_\_.  
A. NH<sub>3</sub>  
B. N<sub>2</sub>  
C. NO<sub>3</sub><sup>-</sup>  
D. amino acids absorbed from the soil  
E. nucleoside absorbed from the soil
- Synapsis and crossing over occur during \_\_\_\_\_.  
A. anaphase I  
B. prophase I  
C. prophase II  
D. metaphase I  
E. metaphase II
- Transformation is a process whereby  
A. bacteria utilize restriction enzymes to cleave DNA.  
B. bacteria exchange their genetic materials by F factor.  
C. bacteria take up DNA from their

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- environment.
- D. bacteria duplicate their DNA.
- E. bacteria produce plasmids.
16. Adult stem cells have limited therapeutic potential
- A. because they are fully differentiated.
- B. because they lack a complete set of genes.
- C. because their developmental potential is limited to certain tissue.
- D. because scientists have no reliable method of identification.
- E. because they are aged cells.
17. The angiosperm plant we see represents the \_\_\_\_\_ generation, and the flower produces \_\_\_\_\_.
- A. sporophyte.....gametophytes
- B. sporophyte.....bryophytes
- C. gametophyte.....sporophytes
- D. gametophyte.....bryophytes
- E. seed.....sporophytes
18. Hormones are used for all of the following except:
- A. Stress management.
- B. Stimulation of growth.
- C. Thermoregulation.
- D. Regulation of metabolism.
- E. Homeostasis.
19. Which of the following is a function of epinephrine?
- A. Release glucose from the liver.
- B. Decrease heart rate.
- C. Increase absorption of glucose by the digestive tract.
- D. Increase the synthesis of glycogen in liver cell.
- E. Decrease respiratory rate
20. Which cell can secrete pepsinogen into the gastric juice of stomach?
- A. Mucus cell
- B. Endocrine cell
- C. Parietal cell
- D. Chief cell
- E. Goblet cell
21. Which of the following act mainly to regulate salt and water balance?
- A. oxytocin
- B. glucagon
- C. mineralocorticoids
- D. glucocorticoids
- E. calcitonin
22. Animals that consume plant material are called:
- A. Herbivores
- B. Carnivores
- C. Omnivores
- D. Detritivores
- E. Phagovores
23. Which immunoglobulin can be found on the plasma membrane of mast cell?
- A. IgG
- B. IgM
- C. IgA
- D. IgE
- E. IgD
24. Cells that insulate and speed impulse conduction down neurons in the CNS are:
- A. Nodes of Ranvier.
- B. Astrocytes.
- C. Schwann cells.
- D. Oligodendrocytes.
- E. Neurons
25. The type of plant vascular tissue specialized to conduct foods is known as \_\_\_\_\_.
- A. xylem
- B. collenchyma
- C. phloem
- D. sclerenchyma
- E. parenchyma

簡答題(限用英文答題;每答對一題,可抵消選擇題倒扣兩分,但只用於抵銷倒扣,並不計入得分):

1. 人類血液中,負責攜帶氧氣的是哪一種分子?
2. 魚類是用什麼器官進行呼吸?
3. AUG 對應到的是那一個氨基酸?
4. SNP 是哪些英文字的縮寫?
5. 試著用 6 個核苷酸寫出一條 palindromic sequence。
6. B cell receptor 指的是哪一種免疫球蛋白?
7. 當酸性食糜(Acidic chyme)進入十二指腸時,哪一種 Hormone 會誘使胰臟分泌重碳酸鹽來中和它?
8. Epinephrine 是由哪種氨基酸衍生而來?
9. 鳥類的最終含氮代謝廢棄物為何?
10. Krebs cycle 是在那個胞器內進行?

本試題兩面印刷

試題完