

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

一、選擇題：每題 5 分

1. Which of the following has quaternary structure?

- A) Myoglobin
- B) Insulin
- C)  $\alpha$ -chymotrypsin
- D) Hemoglobin

2. Which of following is not soluble in water?

- A) Nonpolar compound
- B) Strongly polar compound
- C) Weak electrolyte
- D) Strong electrolyte

3. Which of the following is the source of the nicotinamide portion of NAD?

- A) N-Methylnicotinamide
- B) The vitamin riboflavin
- C) PRPP
- D) Tryptophan

4. Termination of a prokaryotic transcript:

- A) A random process
- B) Requires the presence of the rho subunit of holoenzyme
- C) Does not require rho factor if the end of the gene contains G-C rich
- D) Requires an ATPase in addition to rho factor

5. Which of following about hemoglobin is not true?

- A) Four polypeptide chains
- B) Two copies of chain
- C) Determined by the C<sub>L</sub> regions
- D) All chains are linked by disulfide bonds

6. IgG

- A) Primary in mucosal secretions
- B) Contains carbohydrate covalently attached to the H chain
- C) Important in allergic reaction
- D) Has the highest molecular weight compared to all the immunoglobulins

7. Which of the following about degradation of sphingolipids is not true?

- A) terminates at ceramides
- B) involve a sulfatase
- C) stepwise removal of constituents
- D) occurs in lysosomes

8. Which of the following about cell membrane is true?

- A) more than 90% phospholipid
- B) have integral and peripheral proteins
- C) contain cholesteryl ester
- D) contain most triacylglycerols

9. Which statement about glucose uptake is correct?

- A) Most cells is through concentration gradient
- B) Brain cells is through active transport
- C) Intestinal mucosal cells require insulin
- D) Liver cells is through glucose transporter

10. Which statement about P450 is correct?

- A) Take electrons from NADH
- B) Catalyze hydroxylation
- C) Does not contain heme
- D) all are not correct

11. Which of the following about vitamin D is true?

- A) A deficiency results in an increased secretion of calbindin
- B) Calcidiol is the active form
- C) It binds to G protein-coupled receptor
- D) It has the opposite effect of thyroid hormone.

12. Which protein identifies the promoter of coding genes in eukaryotes.

- A) Rho
- B) Sigma
- C) TFIID
- D) U1

13. What is/are required for polymerase chain reaction (PCR)?

- A) DNA polymerase
- B) Templates
- C) Primers
- D) 5'-dNTP
- E) All of them

14. What is small inhibitory RNAs (siRNAs)?

- A) It is single stranded
- B) It inhibits DNA replication
- C) It is required for DNA repair
- D) It inhibits transcription
- E) It requires ribosome.

15. What is cell surface receptor?

- A) After ligand binding it allows ion influx.
- B) Also called GPCR
- C) Required second messenger
- D) Activates enzymatic cascade
- E) Needs phosphorylation.

16. Desaturation of fatty acids in human:

- A) Occurs In endoplasmic reticulum
- B) Occurs in mitochondria
- C) Occurs in Golgi
- D) After palmitate is elongated
- E) Required CO<sub>2</sub>

17. The cutting of restriction enzyme on DNA involves:

- A) Peptides
- B) Phosphodiester
- C) Disulfide
- D) N-glycosidic

18. Which technique is the most accurate to show 2 RNA are identical?

- A) Hybridization
- B) PCR

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第 4 頁，共 4 頁

- C) Western blot
- D) Nucleotide sequencing

19. Which one is responsible for transporting newly synthesized triglycerides from the liver to adipose tissue?

- A) LDL
- B) VLDL
- C) HDL
- D) IDL

20. Which one of followings about mitochondria DNA (mDNA) is correct?

- A) Contains their own DNA
- B) The mDNA is linear
- C) From both the parent.
- D) Codes for all the proteins required to maintain mitochondria structure.