Medical Biochemistry Exam 2

MEDICAL BIOCHEMISTRY 2

INSTRUCTIONS: Answer all questions in this paper.
Time: 3 Hours
Section A (Multiple Choice Questions – each 1 mark)

1.Which one of the following is stored in the liver?
A.Vitamin A
B.Vitamin D
C.Amino acid
D. A and B

2.Which one of the following is not a component of a nucleoside?
ARibose
B.Guanine
C.Deoxyribose
D.Fucose

3. Which one of the following best explains the difference between ribose and deoxyribose?
A. Ribose has –OH groups at carbon atom number 1,2&3
B. Deoxyribose does not contain oxygen at the second carbon atom
C.Ribose is found in RNA while deoxyribose is found in DNA
D.Ribose has a single ring while Deoxyribose has two rings.

4.Which one of the following is a purine?
A.Cytosine
B.Guanine
C.Thymine
D.Uracil

5.The following are true about glucose except?
A.It is the chief physiological sugar present in normal blood
B.It occurs as a constituent of disaccharides and polysaccharides
C.It is stored as glycogen in the muscles
D.It is stored as such in the liver cells

6.Starch is a polymer of?
A.Glucose
B.Glucose and fructose
C.Mannose and fucose
D.Triose and ribose

7.The following are true about vitamins except?
A.They do not enter tissue structures

B.They may serve as coenzymes
C.They are mostly provided in the diet
D.They provide energy

8.The following are involved in the normal regulation of blood calcium level except?
A.Vitamin
B.Adrenaline
C. Parathyroid hormone
D.Calcitonin

9.The following are true about marasmus except?
A.It is a deficiency of total calories
B.It usually presents before the end of one year
C.It is frequently attributed to early, abrupt weaning and inadequate diet.
D.It is characterized by low plasma albumin level.

10.The following are pituitary hormones except?
A.TSH
B.ADH
C.Prolactin
D.Epinephrine

11.The following are true about the enzyme tyalin except?
A.It is an ? – amylase
B.It hydrolyses ? – 1 – 4 glycosidic linkages
C.It is active at pH 6.6 – 6.8
D.It digests carbohydrates in the stomach

12.The following are monosaccharides except?
A.Trioses
B.Ribose
C.Deoxyribose
D.Maltose

13.Essential fatty acids serve the following functions except?
A.They form structural elements of gonads
B.They increase fibrinolytic activity
C.They increase fat in the liver
D.They improve vision

14.The liver serves the following functions except?
A.Storage of glycogen
B.Storage of lipids
C.Secretion of bile
D.Detoxification of drugs

15.Steroid hormones can be characterized by the following except?
A.They bind to cytosolic receptors
B.They are metabolized in the kidney

C.They are synthesized in the adrenal cortex
D.They are synthesized in the gonads

16.The following are true about cholesterol except?
A.It is a precursor of androgens and estrogens
B.It is found in egg and milk.
C.It cannot be synthesized in the body
D.It is a major component of the plasma membrane

17.Which one of the following bonds is found in a nucleotide?
A.Phosphodiester bond
B.N- glycosidic bond
C.Covalent bond
D.Hydrogen bond

18.Which one of the following best describes an ampholyte?
A.It is an ionized molecule
B.It has both negative and positive charges
C.It has either a positive or a negative charge
D.It has equal numbers of cations and anions

19.Which one of the following best describes glycogen?
A.It is stored in the liver
B.It is used for energy provision
C.It is used for maintaining blood glucose level
D.It is the major form of carbohydrate

20.Which one of the following is not a dietary fibre?
A.Cellulose
B.Glycogen
C.Lignin
D.Pectin

Section B (Short Answer Questions – each 5 marks)

1.Enumerate the biological significance of polyunsaturated fatty acids.(4 marks)

2.Outline the fate of glucose and its utilization in the body.(6 marks)

3. Explain the role of the enzyme alkaline phosphatase in clinical diagnosis. (6 marks)

4.Outline the classification of amino acids . (6 marks)

5.Explain the relationship between cholesterol with atherosclerosis. (6 marks)

6.Explain the clinical significance of blood sugar level. (6 marks)

7.Describe briefly the various factors affecting membrane fluidity. (6 marks)

Section C (Essay Questions – each 20 marks)

1.Describe the structural and functional classification of proteins.

2. Describe the glycogen storage diseases.