THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2019 TRIMESTER

FACULTY OF SCIENCES

DEPARTMENT OF NURSING

REGULAR PROGRAMME

NUR 209: MEDICAL BIOCHEMISTRY II

Date: APRIL 2019	**Duration: 3 Hours**
INSTRUCTIONS: Answer ALL Questions	

PART ONE: MULTIPLE CHOICE QUESTIONS (MCQS) (20 MARKS)

Q1. Gluconeogenesis occurs in the liver because of the presence of

a) Pyruvate carboxylase
b) Glucose 6 Phosphatase
c) Glucokinase
d) Phosphofructokinase

Q2. In alcoholic liver disease, which of the following enzymes is a sensitive marker

a) Gamma Glutamyltransferase
b) Alanine transaminase
c) Aspartate transaminase
d) Alkaline phosphatase

Q3. Which of the following nucleotides is not present in RNA?

e) AMP
f) GMP
g) CMP
h) TMP

Q4. Identify the purine base of nucleic acids in the following

a) Cytosine

b) Thymine
c) Uracil
d) Adenine

Q5. What is the composition of nucleoside?

a) A sugar + a phosphate
b) A base + a sugar
c) A base + a phosphate
d) A base + a sugar + phosphate

Q6. What is the composition of nucleotide?

a) A sugar + a phosphate
b) A base + a sugar
c) A base + a phosphate
d) A base + a sugar + phosphate

Q7. The sugar molecule in a nucleotide is

a) Pentose
b) Hexose
c) Tetrose
d) Triose

Q8. Group of adjacent nucleotides are joined by

a) Phosphodiester bond
b) Peptide bond
c) Ionic bond
d) Covalent bond

Q9. Which of the following is a polar derivative of cholesterol?

a) Bile salt
b) Oestrogen
c) Vitamin D
d) Progesterone

Q10. Which of the following is a storage form of lipid?

a) Glycolipid
b) Phospholipid
c) Sufolipid
d) Triacyl glycerol

Q11. In the normal resting state of human most of the blood glucose burnt as fuel is consumed by

a) Liver
b) Brain
c) Adipose tissue
d) Muscles

Q12. The biosynthesis of urea occurs mainly in the liver:

a) Cytosol
b) Mitochondria
c) Microsomes
d) Nuclei

Q13. Bile salts make emulsification with fat for the action of

a) Amylose
b) Lipase
c) Pepsin
d) Trypsin

Q14. Prothrombin is synthesized by

a) Liver
b) Kidney
c) Intestine
d) Stomach

Q15. Which one of the following disease characteristically causes fatty change in liver?

a) Hepatitis B virus infection
b) Wilson's disease
c) Hepatitis C infection
d) Chronic alcoholism

Q16. The two coiling chains in DNA are:

a) Semiconservative
b) Parallel
c) Discontinuous
d) Antiparallel

Q17. Most gastrointestinal tract enzymes are :

a) Hydrolases
b) Oxyreductases
c) Lyases

d) Transferases

Q18. In order to exhibit its function, pancreatic lipase is required to cross react with triacylglycerols that are:

a) Free
b) Bound to micelles
c) Attached with mixed micelles that are bound to co-lipase
d) Present as micelles

Q19. The major endocrine stimulus for haemopoeisis in the form of erythropoietin comes from:

a) Liver
b) Kidney
c) Skin
d) Pancreas

Q20. Thyroid function test helps in assessment of thyroid diseases. Choose the most significant thyroid function test parameter in patient with hyperthyroidism

a) TSH
b) T3
c) T4
d) Reverse T3

PART - II: SHORT ANSWER QUESTIONS (SAQs) (40 MARKS)

Q1. Outline the difference between RNA and DNA **(4 marks)**
Q2. With a diagrams outline the two types of bases in nucleic acids **(8 marks)**

Q3. Describe how the kidney helps in maintenance of homeostasis **(8 marks)**

Q4. Outline 3 functions of plasma proteins **(6 marks)**

Q5. List 4 causes of albumin deficiency **(2 marks)**

Q6. Outline lipid transport in the human body **(5 marks)**

Q7. Describe the functions of the adipose tissue **(6 marks)**

Q8. List 2 adrenal medulla secretions **(1mark)**

PART III: LONG ANSWER QUESTIONS (LAQs) (40 MARKS)

Q1. Discuss 4 pathways that provide for ATP synthesis in aerobic conditions **(20 marks)**

Q2. Discuss the different parameters measured in liver function tests **(20 marks)**

END