19CNP08

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022
(Second Semester)

Branch – **CLINICAL NUTRITION AND DIETETICS**

CLINICAL BIOCHEMISTRY

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1. A liver biopsy from an infant with hepatomegaly, stunted growth, hypoglycaemia, lactic acidosis, hyperlipidaemia revealed accumulation of glycogen having normal structure. Identify the possible diagnosis from the following.
   a) Branching enzyme deficiency b) Liver phosphorylase deficiency
   b) Debranching enzyme deficiency d) Glucose-6-phosphatase deficiency
2. Which of the following cofactors of their derivatives must be present for the conversion of acetyl- CoA to Malonyl-CoA in extramitochondrial FA synthesis?
   a) FAD b) FMN
   b) c) NAD+ d) Biotin
3. Find the product of the series of reactions that converts carbamoyl-(P) to urea
   a) Arginine b) Citrulline
   c) Fumarate d) Aspartate
4. Identify the common gene delivery system for in vivo gene therapy?
   a) Micro injection b) Lipofecction
   c) Adino viral vectors d) Electro proton
5. Which tumor marker is associated with Germ cell tumor?
   a) Alpha Feto Protein b) Calcitonin
   c) Thyroglobulin d) Desmin

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Classify enzymes with suitable examples.
OR
b Describe "Krebs" citric acid cycle.

7 a Explain how the ketone bodies are metabolized.
OR
b Illustrate the functions of plasma lipoproteins.

8 a Describe Amino acid pool and how it is maintained.
OR
b Explain oxidative phosphorylation.

9 a Describe Genetic code.
OR
b Evaluate the applications of Genetic engineering.

10 a List the clinical uses of radioisotopes.
OR
b Reveal any two tests used to estimate the gastric function.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Explain the factors which influence the rate of enzyme action.

OR

b Describe the process of glycogen formation and breakdown in the Liver. Highlight the points of difference and their significance.

12 a Infer the steps involved in oxidation of fatty acids.

OR

b Illustrate the biosynthesis of phospholipids.

13 a Interpret creatine and creatinine synthesis.

OR

b Summarize the metabolic process in starvation.

14 a Describe the process of DNA replication and protein synthesis.

OR

b Review the various approaches towards gene therapy.

15 a Analyze the biochemical tests used to assess the liver function.

OR

b Discuss the radiological investigations used for clinical diagnosis.

Z-Z-Z END