

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0123]

JANUARY 2023

Sub. Code : 6055

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR –(CBME)
PAPER I – BIOCHEMISTRY
Q.P. Code: 526055

Time: Three hours

Maximum : 100 Marks (80 Theory + 20MCQs)
Answer All Questions

I. Essay:

(2 x 15 = 30)

1. A four year old girl was brought to the OPD for not being able to walk properly. O/E she had bowed legs, thick wrists and dental caries. Her weight (8 kgs) and height (72.5cm) were below third percentile for her age. X-Ray shows cupping and widening of metaphyseal end of bone, poor bone mineralization.
 - Lab investigations showed:
Serum Calcium – 8.5 mg/dL, Serum phosphorous – 3.0 mg/dL, Serum Alkaline phosphatase – 924 U/L, Serum 25-OH Vitamin D – 12 ng /mL.
 - a) What is your provisional diagnosis?
 - b) Write the daily requirement and sources of the deficient nutrient in the above condition and its main functions.
 - c) Write in detail about its deficiency manifestations in children and adults.
 - d) What are the causes of this disease?
2. Explain the steps of beta oxidation of Palmitic acid and its Energetics. Add a note on alpha and beta oxidation disorders.

II. Write short notes on:

(10 x 5 = 50)

1. Diagnostic criteria for diabetes mellitus and laboratory investigation in Diabetes mellitus.
2. Molecular basis and clinical features of Sickle cell anemia and Thalasemias.
3. Passive Transport Mechanisms.
4. A 4 month old child was brought with the history of vomiting, feeding difficulties and Failure to thrive along with developmental delay. The child was born at full term by normal delivery (birth weight 3 kg) and exclusively breast fed. The child also had suffered from severe and prolonged neonatal jaundice. The child now weighs 4 kg. O/E. He had hepatomegaly with bilateral cataract.
 - a) What is your diagnosis?
 - b) What is the Biochemical defect?
 - c) What is the Biochemical test for reducing sugars?
 - d) What are the non-carbohydrate reducing substances in urine?
 - e) What is the treatment for this disease?
5. Metabolism of LDL with clinical importance.
6. Protein energy malnutrition.
7. Functions of prostaglandins.
8. Glycogen storage disorders.
9. Classify enzymes with examples.
10. Write short notes on Metabolic syndrome.
