**Sylhet Women’s Medical College**

**2nd Term MBBS Examination**

**Subject: Biochemistry**

**SWMC-10 (SAQ)**

**Full marks -80 Time – 2hrs 40 min Date -29.10.2015**

Answer any eight question from each group.

**Group A**

1. Write the electrolyte concentration in plasma. Name the indicators use in ECF

volume measurement and plasma volume measurement 2+3

1. Make water intake output chart of an adult male in temperate climate. What is

Insensible water loss? Mention the obligatory Urine volume. 2+2+1

1. Mention functions of sodium in human body. How sodium homeostasis is maintained ? 2+3
2. How acid base balance is maintained in normal human body? Mention the processes of

acidification of Urine. 2+3

1. How body water balance is maintained? What is water intoxication and water turnover ? 2+3
2. Define metabolic & respiratory acidosis. How they are compensated? Explain the

ABD from the following data: pH 7.25, [ HCO3-] 16 mEq/L, pCO2 30 mm Hg. (2+1+2)

1. Write Short notes on:a) Hypokelaemia , (b) Anion Gap 2.5+2.5
2. Define diuresis. Give the differences between water diuresis & osmotic diuresis. 1+4
3. Mention osmolality of plasma and urine. What are the osmotic profile of different parts

of a nephron? 2+3

**Group B**

1. Define Bioenergetics, Biological oxidation, Free energy, Entropy and Enthalpy. 5

2. How Ketone bodies are produced and utilized? State some condition when

ketone bodies are produced.

4+1

3. Name the pathways of Protein Metabolism. How Ammonia is produced

and disposed of human body? 2+3

4. Define & classify lipoprotein. Write the metabolic fates of chylomicron 1+1+3

5. State the irreversible steps of glycolysis. What are the end products of

Glycolysis & β-Oxidation? Calculate ATP produced by Glycolysis in RBC. 2+2+1

6. Mention the steps of Cholesterol biosynthesis.

What is the clinical importance of the rate limiting step? 3+2

7. Name the amylolytic enzymes with location, substrates & products.

What is lactose intolerance? 3+2

8. What is carnitine shuttle?Calculate ATP produced in complete oxidation of one molecule of

Palmitic Acid(16-C, Saturated Fatty Acid). 4+1

9. Name the intermediary metabolic pathways of carbohydrate metabolism. Mention the importance of

Gluconeogenesis and HMP shunt.