

150-NR

M.D. DEGREE EXAMINATION – APRIL, 2013

BIOCHEMISTRY

Paper-III : Hormones and Nutrition

Time: 3 Hours

Max. Marks:100

Note: Answer all questions

All questions carry equal marks

WRITE SHORT ESSAYS ON THE FOLLOWING:

1. Discuss the source, RDA, biochemical functions and deficiency of Vitamin A.
 2. Discuss in detail causes and biochemical investigation of iron status in the body.
 3. Discuss sources, chemistry and metabolic functions of Vitamin D. Explain the hormonal regulation of serum calcium levels.
 4. Write briefly on:
 - A) Balanced diet
 - B) Malabsorption syndrome
 5. A 14 year old girl was brought to the casualty with altered sensorium and a history of significant weight loss in the last 4 months, increased thirst and increased urination. On examination patient was found to be dehydrated and drowsy. Biochemical investigations revealed random blood glucose – 600 mg /dL, urine ketones present, urine sugar⁺⁺⁺, blood pH 7.2
 - A) What is the probable diagnosis? Explain the biochemical and metabolic basis for the clinical and lab findings.
 - b) Describe the role of insulin in the regulation of blood glucose levels.
 6. Discuss the functions and associated disorders of catecholamines.
 7. Discuss the biochemical functions and metabolism and associated disorders of:
 - A) Magnesium
 - B) Iodine
 8. Justify the dietary requirement of Selenium. How is Selenocysteine synthesized in the body?
 9. Describe with the help of a diagram, the hormonal changes during normal pregnancy.
 10. Nutritional assessment of dietary protein.
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