F.Y.B.T. SEM II
Biochemistry -I
14/3/15

VH03 15 VCD - BIOCHEMISTRY- I- F.Y.B.S.c-SEM II -75 MARKS - 2 1/2 HRS 25

Note: 1. Figures to right indicate marks.
2. All questions are compulsory.
3. Draw appropriately labeled diagrams wherever necessary.

Q I) A. Answer the following (any Four) [8]

i. Give any 2 plant sources of lipids.
ii. Give any 2 examples of saturated fatty acids.
iii. Give 2 examples of sterols.
iv. Give the molecular formula of cic-9-octadecanoic acid
v. Define sphingolipid
vi. Define glycoproteins.
vii. Define Waxes.
viii. Define polymerization.

B. Explain the following terms: (any Two) [6]

i. Rancidity
ii. Lecithin.
iii. Glycosphingolipids.
iv. Triacylglycerols.

C. Answer in brief : (any One) [6]

i. Differentiate between saturated and unsaturated fatty acids.
ii. Write a detailed note on sphingolipids.

Q II) A. Define the following (any Four) [8]

i. Draw the conversion of Lactam form to Lactim form.
ii. Define Tm of DNA.
iii. Define Hypocorism
iv. Give the functions of t-RNA
v. Draw the structure of the nucleoside of Thymine.
vi. Explain the function of UDP.
vii. Draw the structure of cytosine.
viii. Give the abbreviations of a ribonucleoside 5-phosphate and deoxyribonucleoside 5-phosphate.

B. Explain the following terms: (any Two) [6]

i. Explain the detailed structure of clover model of t-RNA
ii. Hypocorism and hypercorism.
iii. How does RNA plays an important role in protein synthesis?
iv. Explain the function of Hypoxanthine.

C. Answer in brief : (any One) [6]

i. Explain the denaturation of DNA and mention the factors affecting the stability of DNA.
ii. Explain the structure of a DNA.

Q III] A. Answer the following questions: (any four) [8]

i. What are basic food groups?
ii. What is SDA?
iii. Define essential nutrients.
iv. Explain malnutrition.
v. Calculate energy required for basal metabolism for an adult man, 20 yrs old, weight 55kg, Height 150cm.
vi. Give advantages of carbohydrates.
vii. Define BMR
viii. What is significance od SDA?

B. Answer the following questions in brief: (Any two) [6]

i. Explain Recommended daily allowance.
ii. Explain importance of lipids in diet.
iii. How is the BMR calculated?
iv. Explain - "Water is a Major constituent of balanced diet."

C. Answer the following questions in detail (any one) [6]

i. Write a brief note on nutritional significance of Minerals and proteins.
ii. Explain - "Balanced diet"

Q IV] 1.(A) Give example of one the following [2]

i. MUFA.
ii. 14-carbon unsaturated fatty acid.

1. (B) Name the following: (any Three) [3]

i. Lipid containing 10-carbon atoms.
ii. Number of carbon atoms in Enolic acid.
iii. Saturated lipid containing 16-Carbon atoms
iv. Sphingolipid
v. Structural lipid.
vi. Function of lipid

2.(A.) Answer the following : (Any One) [2]

i. Draw the structure of a 2'- deoxyadenosine.
ii. Draw the structure of a nucleotide and a nucleoside.

2.(B.) Fill up the blanks : (Any Three) [3]

i. Abbreviation of PCR.
ii. Abbreviation of ATP, ADP and AMP.
iii. Name the scientist who stated that DNA is a triple stranded.
iv. What did Erwin Chargaff study to state his principles?
v. Name the simple technique used in the detection of RNA.
vi. Name two biologically important bases.

3.(A.) Define : (Any One) [2]

i. Nutrition.
ii. Calorie.

3.(B.) Answer the following : (Any Three) [3]

i. Give the calorific value of Proteins.
ii. Name any essential nutrient.
iii. Name any micro nutrient
iv. Name any water soluble vitamin
v. Give the RDA of carbohydrates.
vi. Name any macro nutrient.

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