FIRST YEAR (NEW) PHARMACY
BIOCHEMISTRY AND CLINICAL PATHOLOGY
(104)

Time : Three Hours ***Maximum Marks : 80***

Note : i) Attempt total *six* questions. Question No.1 is compulsory. From the remaining questions attempt any *five*.
ii) Illustrate your answer with neat sketches wherever necessary.
iii) Answer each next main question with a new page.

1. Define the following with examples (Any five) 2 each
   a) Carbohydrates
   b) Amino acids
   c) Co-Enzymes
   d) Hypoglycemia
   e) Vitamins
   f) Diabetes

2. Solve any four from following 14
   a) Classify Lipids with suitable examples.
   b) Give the structure of
      i) Glucose ii) Glycine

c) Give two identification test for lipids.

d) Explain β-oxidation of fatty acids.

e) Define the following in lipids

i) Iodine value

ii) Acid value

3. Solve any four from following 14

a) Classify Proteins with suitable examples.

b) Describe any two tests of proteins.

c) Give structure of any two essential amino acids.

d) Explain denaturation of protein.

e) Describe Urea Cycle.

4. Solve any four from following 14

a) Give Biological importance of Carbohydrates.

b) Classify carbohydrates with suitable examples.

c) Give the structure of Galactose and Fructose.

d) Describe Benedict's Test for carbohydrates.

e) Explain the terms

i) Oxidation of Carbohydrate

ii) Osazone formation

5. Solve any four from following 14
   a) Classify the vitamins on the basis of solubility.
   b) Give structure, biochemical role and deficiency diseases of Pyridoxine.
   c) Differentiate between enzyme and co-enzyme
   d) Explain the role of Vitamin-A in Human body
   e) Explain the diseases caused due to deficiency of following vitamins
      i) Vitamin-C
      ii) Vitamin-B12

6. Solve any four from following 14
   a) Give the dietary source of following
      i) Calcium
      ii) Phosphorus
   b) Give the deficiency diseases of followings
      i) Iodine
      ii) Iron
   c) Give the Physiological functions of Iron.
   d) Describe the water metabolism.
   e) Write a note on Dehydration.

7. Solve any four from following 14
   a) Discuss clinical significance of enzyme.
   b) Explain the terms:
      i) Group specificity
      ii) Iso-enzyme

c) Discuss the factors affecting the enzyme action.

d) Explain the chemical examination of proteins in urine.

e) Explain the terms:

i) Megaloblastic Anaemia

ii) Leukaemia

8. Solve any four from following 14

a) Define Enzymes with its properties.

b) Explain mechanism of enzyme action.

c) Name the abnormal constituents of Urine

d) Explain the characteristics of Normal Urine

e) Write the following tests

i) Barfoed's Test

ii) Xanthoproteic Test