

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Pharmacy First Year Examination May 2010

**Subject code: 410004**

**Subject Name: Biochemistry and Clinical Pathology**

**Date: 22 /05 /2010**

**Time: 11.00 am-02.00pm**

**Total Marks: 80**

**Instructions:**

- 1. Attempt any five questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- Q.1**
- (a) Define amino acid and give their classification. **05**
  - (b) State and explain the qualitative tests for protein. **06**
  - (c) Explain protein deficiency diseases. **05**
- Q.2**
- (a) Define Carbohydrates and give their classification with examples. **05**
  - (b) Give the principles of the following tests : **06**
    - 1) Molosch's test
    - 2) Benedict's test
    - 3) Osazone test
  - (c) What is mutarotation ? Explain Optical Isomerism. **05**
- Q.3**
- (a) Discuss the factors affecting ENZYME activity. **06**
  - (b) Explain "Lock and key model" and "Induce fit model" of enzyme action. **05**
  - (c) Write a note on enzyme inhibition. **05**
- Q.4**
- (a) Explain the role of lipid and give their classification with example. **06**
  - (b) Define and explain: **06**
    - 1) Saponification no.
    - 2) Acid value
    - 3) Iodine no.
    - 4) Acetyl no.
    - 5) Polenske no.
    - 6) Reichert meissel no.
  - (c) Explain the role of phospholipid in biological membrane **04**
- Q.5**
- (a) Describe TCA cycle. **06**
  - (b) Write a note on Embden Meyerhof pathway of carbohydrate metabolism. **05**
  - (c) Explain  $\beta$ - oxidation of fatty acids. **05**
- Q. 6**
- Explain chemistry, sources, physiological function and deficiency manifestation of : **16**
- 1) Vitamin A
  - 2) Riboflavin
  - 3) Vitamin D
  - 4) Iron
- Q.7**
- (a) Explain lymphocytes, platelets and their role in health and diseases. **06**
  - (b) Write a note on abnormal constituents of Urine and their significance in diseases. **05**
  - (c) Write a note on erythrocytes abnormality. **05**

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