Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Pharmacy First Year Remedial Examination September 2009

Subject code: 410004 Subject Name: Biochemistry & clinical pathology

Date: 19/09/2009 Time: 02:30pm-5:30pm

Instructions: **Total Marks: 80**

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

Q.1	(a)	Define carbohydrate. Classify it with examples. Write its biomedical importance.	**05**
	(b)	Write notes on Mucopolysaccharides and proteoglycans.	**05**
	(c)	Describe citric acid cycle with its energetic.	**06**
Q.2	(a)	Define and classify vitamins. Write chemistry, source, functions and deficiency of Vitamin A.	**05**
	(b)	Write functions of following :	
		1. Iron	**02**
		2. Calcium	**02**
		3. Zinc	**02**
	(c)	Discuss co-enzymatic role of thiamine, riboflavin and folic acid.	**05**
Q.3	(a)	Define enzymes. Classify it with suitable examples. Discuss factors affecting enzyme action.	**05**
	(b)	Write clinical importance of following enzymes :	
		1. SGPT	**02**
		2. LDH	**02**
		3. Creatine phosphokinase.	**02**
	(c)	Differentiate between : competitive & non-competitive inhibition	**05**
Q.4	(a)	Define pentose phosphate pathways. Describe flow charts of pentose phosphate pathways. Write in brief about significance of pentose phosphate pathways.	**06**
	(b)	Classify protein on the basis of functional properties. Write in brief about structural organization of protein.	**05**
	(c)	What is urea cycle? Outline its steps involved in urea formation.	**05**
Q.5	(a)	What are lipids? Classify it with examples. Write biomedical importance of lipids.	**05**
	(b)	Define phospholipid. Classify it. Write in brief about phospholipases and biomedical importance of phospholipids.	**05**
	(c)	Write biomedical importance of cholesterol. Write detail notes on de novo synthesis of cholesterol.	**06**
Q. 6	(a)	Give clinical significance of following abnormal constituents of urine.	
		1. Ketone bodies.	**02**
		2. Blood	**02**
		3. Protein.	**02**
	(b)	Write notes on digestion, absorption & transport of lipids to liver.	**05**
	(c)	Describe glycolysis with its energetic.	**05**
Q.7	(a)	Write notes on protein synthesis.	**05**
	(b)	Write notes on lipogenesis.	**05**
	(c)	Write chemistry, dietary source, functions and deficiency disorder of folic acid.	**06**