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2007 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY

II B.TECH I SEMESTER REGULAR EXAMINATIONS  
BIO CHEMISTRY  
(BIO-TECHNOLOGY)

SET NO -4  
NOVEMBER 2007

TIME: 3 HOURS  
MARKS: 80

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Answer any FIVE Questions  
All Questions carry equal marks

1. Write short Notes:

(a) Glycoprotein's

(b) Dextran

(c) Cellulose

(d) Lectins. [4+4+4+4]

2. Discuss pentose phosphate path way. [16]

3. How is a concentration gradient of proton transformed into ATP? [16]

4. (a) Discuss in detail Enzyme-catalyzed transamination.

(b) What is the role of pyridoxal phosphate in the conversion of  $\alpha$ -amino groups to  $\alpha$ -Ketoglutaride. [16]

5. Discuss the nitrogen cycle indicating the involvement of different enzymes in it. Explain the role of nitrogen cycle in maintaining the pool of biologically available nitrogen. [16]

6. What are the common features of biological membranes? What are the major class of membrane lipids? [16]

7. 'Free energy is the most useful thermodynamic function in Biochemistry' Illustrate your answer with suitable metabolic pathway. [16]

8. What are the structural features of photosystem I and II. How do you separate them from each other from the thylakoid membranes. What are the roles of these two photosystems.