Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER IV • EXAMINATION – WINTER • 2014

Subject code: 2240003 **Date: 02-01-2015**

Subject Name: Pharmaceutical Chemistry - V (Biochemistry-II)

Time: 02:30 pm - 05:30 pm **Total Marks: 80**

Instructions:

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

Q.1	**(a)**	Describe α-helical structure of protein. Name the amino acids that destabilize this structure.	**06**
	(b)	Write a note on determination of primary structure of proteins.	**05**
	(c)	What is the basis of the classification of amino acids? Give one example for each class of amino acids.	**05**
Q.2	**(a)**	Outline the steps involved in the Urea cycle and state its significance.	**06**
	(b)	What is Nitrogen balance? Explain its significance and enlist the conditions causing deviations in the nitrogen balance.	**05**
	(c)	Describe in detail about biosynthesis of nutritionally non essential amino acids.	**05**
Q.3	**(a)**	Explain mechanism of oxidative phosphorylation.	**06**
	(b)	Write a detail note on Lac operon.	**05**
	(c)	Discuss Polymerase chain reaction in detail.	**05**
Q.4	**(a)**	Write in detail about the production of ATP and its Biological Significance.	**06**
	(b)	Write a note on conversion of tyrosine to its specialized products.	**05**
	(c)	Define Recombinant DNA technology. Write a note on Genetic Engineering.	**05**
Q.5	**(a)**	Outline the de novo pathway for the synthesis of purine nucleotides and conversion of IMP to AMP and GMP.	**06**
	(b)	Explain the disorders related to purine catabolism.	**05**
	(c)	Define following terms: (I) Iso electric pH (II) Genetic code (III) hyperbilirubinemia (IV) Phenylketonuria (V) Transcription	**05**
Q. 6	**(a)**	Discuss in detail isolation and purification of nucleic acids.	**06**
	(b)	Write in detail about different chromatographic techniques with their importance in biochemistry.	**05**
	(c)	Write a note on electron transport chain and its inhibitors.	**05**
Q.7	**(a)**	Write a note on damage and repair of DNA.	**06**
	(b)	What is Translation? Discuss the different steps involved in it.	**05**
	(c)	Write a note on enzymes involved in biological oxidation.	**05**

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