Exam.Code:0003
Sub. Code: 0260

2012

B.A./B.Sc. (General) Third Semester

Biochemistry

Paper - B: Protein and Nucleic Acid Metabolism

Time allowed: 3 Hours

Max. Marks: 45

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Section.*

x-x-x

1	a.	Differentiate between oxidative and non-oxidative deamination.	**2**
	b.	What is meant by uricotelic, ureotelic and ammoniotelic organisms.	**2**
	c.	Name the following :	**5**
	i.	Two ketogenic amino acids.	
	ii.	Enzyme defective in maple syrup disease.	
	iii.	Methyl donor form of methionine.	
	iv.	Inhibitor of xanthine oxidase.	
	v.	Enzyme involved in conversion of ribonucleotides to deoxyribonucleotides.	

Section A

II	a.	What are transamination and deamination reactions?	**4,5**
	b.	How ammonia is detoxified by urea cycle?	
III	a.	Discuss the role of various proteolytic enzymes in protein digestion in GIT.	**5,4**
	b.	Write a note on glucose-alanine cycle.	

Section B

IV	a.	Name different families of amino acid degradation.	**5,4**
	b.	Describe the catabolism of tryptophan.	
V		Write down the reactions involved in	**3,3,3**
	i.	Phenylalanine to homogentisate	
	ii.	Glycine to serine interconversion	
	iii.	Arginine to α-ketoglutrate	

Section C

VI	a.	List the amino acid biosynthetic families grouped by metabolic precursor.	**3,3,3**
	b.	How proline is synthesized in bacteria?	
	c.	Write down the steps involved in conversion of ornithine to arginine.	
VII	a.	Write down the biosynthesis of :	**4,5**
	i.	Serine from 3-phosphoglycerate	
	ii.	Cysteine from serine	
	b.	Describe the biosynthesis of different neurotransmitters.	

Section D

VIII	a.	Discuss the biosynthesis of purine nucleotides.	**6,3**
	b.	Write reactions of purine salvage pathway.	
IX	a.	Write down the synthesis of deoxyribonucleotides.	**5,4**
	b.	How is conversion of UMP to dTMP inhibited by 5-flurouracil ?	

x-x-x