Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – WINTER 2013

Subject Code: 910201 **Date: 26-12-2013**

Subject Name: Chemistry of Natural Products

Time: 10.30 am - 01.30 pm **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)	What are carbohydrates? Classify them. Discuss the configuration of monosaccharides.	**06**
	(b)	Write a note on heteropolysaccharides.	**05**
	(c)	Discuss the structure of lactose.	**05**
Q.2	(a)	Define and classify proteins. Write a note on biologically important polypeptides.	**06**
	(b)	Give any two methods of synthesis of aminoacids and polypeptides.	**05**
	(c)	What are purines? Prove the structure of Uric acid.	**05**
Q.3	(a)	What are heterocyclic compounds? Give the synthesis and reactions of pyrimidine.	**06**
	(b)	Give the following synthesis with mechanism (1) Hantzsch pyridine synthesis (2) Fischer-Indole synthesis	**05**
	(c)	Write a note on aromaticity of furan, thiophene and pyrrole.	**05**
Q.4	(a)	Discuss the general methods for structural elucidation of alkaloids.	**08**
	(b)	Prove the structure of morphine.	**08**
Q.5	(a)	What are steroids? Discuss stereochemistry of steroids.	**08**
	(b)	Discuss chemistry and SAR of glucocorticoids.	**08**
Q. 6	(a)	What are nucleic acids? Discuss the structure of DNA. Give the function of DNA and RNA.	**08**
	(b)	What are anthocyanins? Give the methods of synthesis of anthocyanidine.	**08**
Q.7	(a)	What are flavones and flavonoids? Discuss the structure of flavones.	**06**
	(b)	Discuss the structure of oxytocin.	**05**
	(c)	Write a note on lignin and pectins.	**05**

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