Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (New) EXAMINATION – WINTER 2015

Subject Code:2140401 **Date:04/01/2016**

Subject Name: MOLECULAR BIOLOGY AND GENETICS

Time: 2:30pm to 5:00pm **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Define the term Mendelian inheritance. Discuss it in detail.	**07**
	(b)	Give a detail account on Peliotrophy.	**07**
Q.2	**(a)**	Discuss in detail Griffith experiment that proves that DNA is a genetic material.	**07**
	(b)	Define the term sex linked inheritance. Explain it in detail.	**07**
		OR	
	(b)	Explain in detail enzymatic machinery for DNA replication in Prokaryotes.	**07**
Q.3	**(a)**	What are the basic features of transcription in prokaryotes?	**07**
	(b)	Elaborate on term cytoplasmic inheritance and its significances.	**07**
		OR	
Q.3	**(a)**	Give a detail account on post translational modifications.	**07**
	(b)	Define genetic code. Write the concept and characteristics of genetic code.	**07**
Q.4	**(a)**	Enlist and explain stages of translation in Eukaryotic cells.	**10**
	(b)	Enlist and write the role of enzymes of eukaryotic transcription.	**04**
		OR	
Q.4	**(a)**	Define the following terms: Gene, cistron, recon, muton, promoter, silencer, enhancer	**07**
	(b)	What do you mean by chromosome? Give bacterial chromosome structure.	**07**
Q.5	**(a)**	Define with suitable explanation following term: Replicon, primosome	**07**
	(b)	Describe in detail eukaryotic chromosome organization.	**07**
		OR	
Q.5	**(a)**	Write a note on wobble hypothesis.	**07**
	(b)	Explain semi conservative mode of replication.	**07**

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