

University of Al-Qadisyiah  
 College of Biotechnology  
 Dept. of Medical Biotechnology



Examination: Molecular Biology-2

Time: Two hours

Stage: 2<sup>nd</sup>

دور اول  
 ٢٠١٧ / ٢٧٧

Final semester examination of second semester 2016-2017

**Note : Answer five questions only , 8 marks for each question.**

**Q1: Describe the synthesis of snRNA ( small nuclear RNA) in the cell.**

**Q2 : Compare between the RNA polymerases in Eukaryotes.**

**Q3: Discusses the genetic code in the *E. coli* .**

**Q4 : Explain the termination-step in the protein translation process .**

**Q5: What is photoreactivation (Light Repair) ?**

**Q6 : Fill in the missing information in the table of lac operon below.**

Carbohydrates	Activator protein	Repressor protein	RNA polymerase	<i>lac</i> Operon
+ GLUCOSE + LACTOSE	Not bound to DNA	Lifted off operator site	Keeps falling off promoter site	
+ GLUCOSE - LACTOSE	Not bound to DNA	Bound to operator site	Blocked by the repressor	No transcription
- GLUCOSE - LACTOSE	Bound to DNA	Bound to operator site	Blocked by the repressor	
- GLUCOSE + LACTOSE		Lifted off operator site	Sits on the promoter site	

Best wishes

**Dr.Mohammed A. Al-Askeri**  
 Department head

**Mohammed Al-Askeri**  
 Examiner