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Total Number of Pages: 02       B. Tech PBT4D001         A <sup>th</sup> Semester Regular / Back Examination 2018-19 BIO-MOLECULES AND CELL SIGNALING BRANCH: BIOTECH Time: 3 Hours       210         210       210       Max Marks: 100 Q.CODE: F949       210         Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-II.       The figures in the right hand margin indicate marks.         Part-1       Part-1       (2 x 10)         a) How do bending of DNA occur? Write its importance?       210       (2 x 10)         a) How do bending of DNA occur? Write its importance?       210       (2 x 10)         a) How do bending of DNA occur? Write its importance?       210       (2 x 10)         a) How do bending of DNA occur? Write its importance?       210       (2 x 10)         a) How do bending of DNA occur? Write its importance?       210       (2 x 10)         a) How do bending of DNA occur? Write its importance?       210       (2 x 10)         b) What is cap of mRNA? Why it is required?       210       210       (2 x 10)         b) What is cap of mRNA? Why it is required?       210       210       (2 x 10)         b) What is ZDNA?       Max brucze and bloce of DNA which is heated to 70-80°C and then subsequently cooled?       210       210         b) Define SinkNA?       10       Define the hydrophobic and hydrophilic inte		Regi	stration No :							
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4 <sup>th</sup> Semester Regular / Back Examination 2018-19     BIO-MOLECULES AND CELL SIGNALING     BRANCH : BIOTECH     Time : 3 Hours     20 210 2Max Marks : 100 210 210     Q.CODE : F949     Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from     Part-II.     The figures in the right hand margin indicate marks.     Part-I     Only Short Answer Type Questions (Answer All-10) 20 (2 × 10)     a) <sup>1</sup> How do bending of DNA occur? Write its importance?     b) What is cap of mRNA? Why it is required?     What is cap of mRNA? Why it is required?     What is cap of mRNA? Why it is called so?     d) What to you understand by equilibrium binding?     e) What is ZWITER ion?     Define the hydrophobic and hydrophilic interactions? How they influence the structure of biomolecules?     Describe the forces that stabilize the protein structure with illustration?     Describe the forces that stabilize the protein structure with illustration?     Describe the force structure and biological macromolecules?     Describe the forter anjor types of biological macromolecules?     Describe the forter anjor types of biological macromolecule?     Describe the forter struct and generation functions?     Describe the inder protein at affect the conformation of biological macromolecule?     Describe the forter any motifs in RNA structure and	Tota	I Numl	per of Pages:0	)2						
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## Part-III

210	Q3	Only Long Answer Type Questions (Answer Any Two out of Four)Write short notes on Boltzmann distributions? Derive the Boltzmann distribution2 constant by using different parameter?210210210	(16)	210
	Q4	Discuss in detail the mechanisms of protein-ligand and protein-protein interactions?	(16)	
	Q5	What is counterion condensation theory? Briefly explain the effect of salt concentration and type on nucleic acid structure and nucleic acid-protein interactions?	(16)	
210	Q6	<sup>2</sup> What do you understand by FRET? How to study single molecule interaction using FRET?	(16)	210

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