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BG—24—2016

FACULTY OF SCIENCE

B.Sc. (BT) (First Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(Revised Course)

BIOTECHNOLOGY

Paper BTT-1.4

(Fundamentals of Chemistry)

(Friday, 25-11-2016) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—80

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw neat well labelled diagrams wherever necessary.

1.	(*a*)	Describe in detail Planck's quantum theory.	10
	(*b*)	Explain electronic configuration of atoms.	10
2.	(*a*)	Describe in detail postulates of Bohr's atomic model.	8
	(*b*)	Describe in detail VSEPR theory.	7
		Or	
	(*a*)	Explain lattice energy.	8
	(*b*)	Describe van der Waals interactions.	7
3.	(*a*)	Explain colligative properties of solutions.	8
	(*b*)	Describe in detail dipole movement.	7
		Or	
	(*a*)	Discuss pH, buffer and their applications.	8
	(*b*)	Describe Ionic equilibrium in solution.	7
4.	(*a*)	Explain zero, first and second order kinetics.	8
	(*b*)	Discuss catalysis and elementary enzyme reactions.	7

P.T.O.

Or

(*a*) Explain first law of thermodynamics. 8

(*b*) Describe in detail Hess law. 7

5. Write short notes on (any *three*) : 15

(*a*) Electronegativity

(*b*) Hybridization

(*c*) Common ion effect

(*d*) Tautomerism

(*e*) Heat of formation.