Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – 3- EXAMINATION –WINTER - 2018

Subject Code:230001 **Date: 30/11/2018**

Subject Name: Physical Pharmaceutics - II

Time:10:30 AM TO 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)**	State Raoult's law. Explain positive and negative deviations from Raoult's law with suitable examples.	**06**
	(b)	Define: Molarity, Normality and Molality. State the Henry's low.	**05**
	(c)	Describe Ostwald-Walker method of measuring the relative lowering of vapour pressure.	**05**
Q.2	**(a)**	Describe Arrhenius theory of electrolytic dissociation.	**06**
	(b)	Describe the Beckmann method to determine freezing point lowering.	**05**
	(c)	State & Explain Faraday`s laws of Electrolysis.	**05**
Q.3	**(a)**	Discuss various factors affecting on rate of reaction.	**06**
	(b)	Explain various methods to determine the order of reactions.	**05**
	(c)	Define first order reaction. Derive equations for first order reaction and its half-life and self-life.	**05**
Q.4	**(a)**	Define Complexation. Classify various types of complexes.	**06**
	(b)	Write applications of complexes in pharmacy.	**05**
	(c)	Write note on protein binding.	**05**
Q.5	**(a)**	Define and Classify the polymers with examples.	**06**
	(b)	Write a note on: Characterization of polymers.	**05**
	(c)	Describe the pharmaceutical applications of polymers.	**05**
Q. 6	**(a)**	Define Diffusion and Flux. Explain Fick's first and second law of diffusion.	**06**
	(b)	Define Dissolution. Explain the Noyes Whitney equation for describing rate of drug dissolution.	**05**
	(c)	Describe the USP type-I & II dissolution apparatus with labeled diagram.	**05**
Q.7	**(a)**	Write a short note on Accelerated stability study.	**06**
	(b)	Describe Debye-Heckel theory for strong electrolytes.	**05**
	(c)	Discuss the general properties of polymer solutions.	**05**

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