Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm. – SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject Code: 910102 **Date: 23-05-2014**

Subject Name: Pharmaceutical Formulation, Development and Biopharmaceutics

Time: 02:30 pm - 05:30 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)**	Describe preformulation study for any one multivitamin oral dosage form.	**06**
	(b)	Discuss consept of preformulation study.Enlist preformulation protocols.	**05**
	(c)	Discuss importance of DSC study in preformulation.	**05**
Q.2	**(a)**	Discuss objective of stability study.Describe various instability in pharmaceutical formulation.	**06**
	(b)	What is ICH? Discuss different climatic zones in stability Testing.	**05**
	(c)	Discuss the considerations of OVIs(organic volatile impurities) in preformulation study.	**05**
Q.3	**(a)**	What is intrinsic solubility? Giving mechanism Discuss various techniques for drug solubilization.	**06**
	(b)	Discuss the importance of BCS in dosage form development.	**05**
	(c)	Discuss importance of accelerated stability study.	**05**
Q.4	**(a)**	Describe different methods for establishing IVIVC.	**06**
	(b)	Discuss factors affecting IVIVC.	**05**
	(c)	What is dissolution mimicking? Explain Bio-relevent dissolution media.	**05**
Q.5	**(a)**	Define “Vd”, “CL”, “$t_{1/2}$”. Give importance of “Vd”, “CL” in pharmacokinetic.	**06**
	(b)	Discuss determination of bioavailability of drug using Urinary Excretion Data.	**05**
	(c)	Write a note on Formulation and Evalution of Herbal toothpaste.	**05**
Q. 6	**(a)**	What is multicompartment model? Enlist such multicompartment models and write a note on two compartment model.	**06**
	(b)	Discuss various physicochemical factors affecting drug absorption.	**05**
	(c)	Write a note on different methods of evalution for shampoo.	**05**
Q.7	**(a)**	Discuss pharmaceutical consideration for $CACO_2$.	**06**
	(b)	Describe influence of Crystallinity and Polymorphism on dissolution of drug from the dosage form.	**05**
	(c)	Write a note on nonlinearpharmacokinetics.	**05**

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