Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM- SEM-II–EXAMINATION – JUNE 2012

Subject code: 220003 Date: 16/06/2012

Subject Name: Pharm. Chemistry-II

Time: 10:30 am – 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)	What is Matter? What are their states? Give differences between them.	**06**
	(b)	Define and explain surface tension, optical activity and refractive index.	**05**
	(c)	Calculate surface tension of ethanol, if density of ethanol is 0.83 and atomic parachor of Carbon is 4.8; Hydrogen is 17.1 and Oxygen is 20.	**05**
Q.2	(a)	Explain, giving examples: Additive, Constitutive and Colligative properties.	**06**
	(b)	What do you mean by partition coefficient, freezing point depression and conductance? How they are useful in pharmacy?	**05**
	(c)	Give differences between ideal and real solutions.	**05**
Q.3	(a)	Explain, clearly: Thermodynamic, System, Extensive properties and Heat of combustion.	**06**
	(b)	State and explain First law of thermodynamic with various modifications.	**05**
	(c)	What is thermo chemistry? How enthalpy of a chemical reaction can be calculated?	**05**
Q.4	(a)	Explain: Monochromator, Photochemical reaction, Photosensitiser and quantum yield	**06**
	(b)	Discuss consequences of absorption of light by matter.	**05**
	(c)	Write pharmaceutical applications of photo chemistry.	**05**
Q.5	(a)	Differentiate between molecularity and order of reaction.	**04**
	(b)	Discuss the methods of determination of order of a reaction.	**04**
	(c)	Derive an equation for first order kinetic.	**04**
	(d)	Aspirin solution has initial concentration 500 mg/100 ml. After 40 days the concentration becomes 300 mg/100 ml. The reaction follows first order kinetic. Calculate half-life and reaction rate constant.	**04**
Q. 6	(a)	Explain terms: (i) Radio activity (ii) Isotopes (iii) Curie (iv) REM (v) Adsorption (vi) Adsorption isotherm (vii) Amphiphile (viii) Absorption	**12**
	(b)	Write notes on Langmuir Adsorption	**04**
Q.7	(a)	Write notes on: (i) Phase rule (ii) Catalyst (iii) Theories of reactions (iv) Debye Huckel theory	**16**

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