

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – III • EXAMINATION – SUMMER 2013

Subject Code: 230001**Date: 10-06-2013****Subject Name: Physical Pharmaceutics-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.

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| Q.1 | (a) Write in brief on concentration expressions in solutions. | 06 |
| | (b) Write in brief on ideal and real solutions. | 05 |
| | (c) Write in brief on properties of solutions. | 05 |
| Q.2 | (a) Derive: lowering of vapour pressure of a solution of a non electrolyte. | 06 |
| | (b) Calculate the relative vapor pressure lowering at 20°C for a solution containing 185.25 gm of sucrose in 1000 gm of water. The molecular weight of sucrose is 342.3 and the molecular weight of water is 18.02. | 05 |
| | (c) Write on molal elevation constant. | 05 |
| Q.3 | (a) Give methods to determine freezing point depression. How will you calculate molecular weight of a non volatile solute from freezing point data? | 06 |
| | (b) Give thermodynamics of osmotic pressure and vapor pressure lowering. | 05 |
| | (c) 25 gm of a material dissolved in 1000 ml of water at 25°C was found to produce an osmotic pressure of 0.5 ATM. What is the molecular weight of the solute? | 05 |
| Q.4 | (a) Write in short on the L value. | 06 |
| | (b) Write in short on osmotic co-efficient for solutions of electrolytes. | 05 |
| | (c) Write in short on metal complexes. | 05 |
| Q.5 | (a) Give classification of complexes. Write on significance of organic pharmaceutical complexes. | 06 |
| | (b) Explain protein binding. | 05 |
| | (c) Show the difference between a zero order reaction rate and a first order rate giving suitable examples. | 05 |
| Q. 6 | (a) Give methods to determine an order of reaction. | 06 |
| | (b) Classify polymers and write on pharmaceutically important polymers. | 05 |
| | (c) Write on diffusion of drugs in general and give Fick's first and second law of diffusion. | 05 |
| Q. 7 | (a) Write on accelerated stability studies. | 06 |
| | (b) How is dissolution of drugs relevant in study of pharmacy? | 05 |
| | (c) Give applications of pharmaceutically relevant polymers. | 05 |
