**Sardar Bhagwan Singh University, Dehradun**

**School of Pharmaceutical Sciences & Technology**

**B.Pharm. 8th Semester (PHR805E)**

**Subject: Novel Drug Delivery System**

**Online Assignment 5**

**Total Marks: 30 Submission Time: 29th April; 23:59 pm**

**Instructions:** 1. Section A is a self grading quiz which is to be performed in Google Classroom and Google Forms only. No submission in hard copy is required/accepted for this section. Delay in submitting this section will be negatively marked with each day, i.e. 1 mark for each day delay. No pdf or scanned image will be accepted for evaluation.

2. Maintain a hardcopy of section B and Section C of this assignment with you. It will be required to be submitted when classes will resume in the University.

**SECTION A: SELF GRADING QUIZ (10 MARKS, I MARK EACH) Google Classroom Activity**

1. Which one of the following osmotic pump is an oral osmotic drug delivery system?
2. Rose-Nelson pump (b) Higuchi-Leeper pump (c) Theeuwes miniature osmotic pump (d) Elementary osmotic pump
3. The delivery of drug from an osmotic drug delivery system is a process governed by
4. Zero order (b) First order (c) Second order (d) Third order
5. Which excipient or combination of excipients gives maximum osmotic pressure?
6. Sodium chloride. (b) Sodium phosphate monobasic. (c) Lactose-fructose (d) dextrose
7. Which one of the following dosage form/drug delivery system must be sterile:
8. Implant (b) Vaginal rings (c) Suppositories (d) None of the above
9. What is Ocusert?
10. An insert for delivery of pilocarpine to eye (b) An insert for delivery of pilocarpine to oral cavity (c) An insert for delivery of pilocarpine to vaginal cavity (d) An insert for delivery of pilocarpine to rectum
11. Ocular drug absorption may be enhanced with the following approach.
12. Dendrimers (b) Implants (c) Contact lens (d) All of the above
13. Which segment of eye requires highest degree of challenge in delivering drugs?

(a) Aqueous humour (b) Vitrous humour (c) Retina (d) Cornea

1. How many cores are there in matrix encapsulation?

(a) Many cores (b) Two cores (c) One core (d) No core

1. What is supercritical fluid?

(a) Any substance at a temperature and pressure above than its critical point (b) A substance which can effuse through solids like a gas and dissolve materials like a liquid (c) A highly compressed gas which possess properties of both liquids and gases (d) All of the above.

1. Inclusion complexation involves:

(a) Complexation of two molecules via covalent linkage (b) Also referred to as host-guest complexation (c) Complexation of two molecules via van der Wall’s forces of attraction (d) Complexation involves hydrophobic bonding between two molecules

**SECTION B: SHORT QUESTIONS (10 MARKS; 5 MARKS EACH)**

1. Differentiate between implants and inserts ?
2. Why drug delivery to posterior segment of eye is difficult?

**SECTION C: LONG QUESTION (10 MARKS)**

1. Explain various factors affecting mass transfer through osmosis. With the help of diagrams, explain several designs of osmotic pumps?