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Total No. of Pages : 02

Total No. of Questions : 13

**B.Pharma (2017 Batch) (Sem.-4)
PHYSICAL PHARMACEUTICS-II**

Subject Code : BP-403T

M.Code : 75845

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A**1. Answer briefly :**

- a) Colloids
- b) Thixotropy and negative thixotropy
- c) coacervation
- d) Difference between stress and strain
- e) Heckel plot is valid for which types of solids material?
- f) HLB scale
- g) Degree of flocculation and its units
- h) Porosity
- i) Ionic strength vs. degradation of pharmaceutical products
- j) Arrhenious equation



SECTION-B

2. Discuss Principle, construction, working and applications of cone and plate viscometer.
3. Discuss Accelerated stability analysis.
4. Discuss different derived properties of powders along with their significance in pharmacy. How they are determined or calculated?

SECTION-C

5. What is a Plug flow? Is it desirable while recording a rheogram?
6. Discuss the stability of pharmaceutical products against oxidation.
7. Explain sedimentation volume and role of flocculating agents in suspensions.
8. Discuss DLVO theory.
9. Enumerate physical factors that influencing degradation of pharmaceuticals. Discuss any one in detail.
10. Write a note on peptization and protective action of colloids.
11. Enumerate different methods to determine particle size and discuss any one in detail.
12. A prescription for a liquid aspirin is called for, It contains 325mg/5ml or 6.5g/ 100ml. Solubility of aspirin at 25°C is 0.33g/100ml. Therefore the suspension will definitely be a suspension. Other ingredients in the prescription cause the product to have a pH of 6. The first order rate constant for aspirin degradation in the solution is $4.5 \times 10^{-6} \text{ sec}^{-1}$. Calculate the zero order rate constant. Determine the self life, t_{90} for the liquid preparation, assuming that the product is satisfactory until at the time at which it has decomposed to 90% of its original concentration (*i.e* 10% decomposition) at 25°C.
13. Calculate the HLB value of a blend of equal amounts of Polysorbate 80 and sorbitan monooleate, the HLB values of 2 surfactants being 15 and 4.3 respectively.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.