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| **Daffodil International University**  **Department of Pharmacy**  **Faculty of Allied Health Sciences**  **Final Examination: Fall 2018** | | | |
| **Course Code:** | **BPH-212** | **Time: 1 hours 30 mins** | |
| **Course Title:** | **Physical Pharmacy – II** | **Full Marks: 25** | |
| **Course Teacher:** | **Md. Mustafezur Rahman(MMR) & Farhana Israt Jahan(FIJ)** | |  |
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| **(Answer any 10 questions of the following)** | | **10X5=50** | |

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| 1. | Mathematically and graphically explain the Newton’s equation of flow. | 5 |
| 2. | State the importance of rheology for fluid and disperse system. Differentiate between pseudoplastic and dilatants flow. | 2+3 |
| 3. | What is concentration cell? How can you derive the Nernst equation from Gibbs free energy? | 2+3 |
| 4. | Define emf. Explain the reaction of a electrochemical cell represented by -  Zn(s)│ZnSO4(aq)││CuSO4(aq)│Cu(s) | 1+4 |
| 5. | Define electrical double layer. Derive the equation of Langmuir adsorption isotherm. | 2+3 |
| 6. | What is HLB Value? Describe the mechanism of detergent. | 2+3 |
| 7. | Discuss the chemical methods for the preparation of Lyophobic colloids | 5 |
| 8. | Explain the optical and mechanical properties of colloids. | 5 |
| 9. | Describe the basic principle of drying. What are the advantages and disadvantages of freeze drying. | 3+2 |
| 10. | What is distillation? Define temperature coefficient and illustrate the Arrhenious equation. | 1+4 |
| 11. | Define and exemplify pseudomolecular reaction. What are the differences between lyophilic and lyophobic sols. | 2+3 |
| 12. | Define following terms-   1. Interfacial tension 2. Defoamer 3. Thixotrophy 4. Protective Colloid 5. Insulator | 1x5=5 |