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Paper Code :DSC-205

Roll No.

**B.Sc.(ZBC)-12, B.Sc.(PCM)-13
2nd Year Examination, Academic Batch 2018
Physical Chemistry**

Time : 3 Hours]

[Max. Marks : 100

*Note. Attempt any **Five** questions. All questions carry equal marks.*

Q.1 Define Critical phenomenon. Derive Vander Waal's equation. Derive Vander Waal constants in terms of critical constants.

Q.2 Define the term Order of reaction? Derive rate expression for first order reactions and its characteristics features?

Q.3 Discuss all theory of catalysis?

Q.4 Define colloids? Discuss natural, technical and analytical application of Colloids?

Q.5 a) Define colloidal system and discuss the various factors which affect the stability of colloidal system?

b) Discuss the application of colloids with special reference to natural application and analytical application.

Q.6 Write a note on emulsion. Discuss types , properties and use of emulsion.

Q.7 Discuss phase diagram of water system including topics

- Triple point,
- Areas and
- Metastable equilibrium.

Q. 8 a) Write a note on Radioactive and Non-Radioactive processes.

b) Discuss JABOLANSKI diagram.