PHYSICAL CHEMISTRY (BS-ADP 7th Semester)

Module Code:	**Chem-403**
Module title:	**Surface Chemistry**
Name of Scheme:	**BS-ADP 7th Semester**
Department:	**School of Chemistry**
Faculty:	**Science**
Module Type:	**Compulsory**
Module Rating:	**2 credits**

OBJECTIVES

Students will acquire knowledge and understanding about the theoretical as well as application related aspects of surface chemistry. They will be able to explore adsorption and catalysis processes including autocatalysis and enzyme catalysis.

SYLLABUS OUTLINES

Adsorption, types of adsorption, Adsorption isotherms, single system, double system, catalytic reaction of a gas on solid surface, catalytic reaction of two gases on solid surface, the Eley-Rideal mechanism and the Langmuir-Hinshelwood mechanism, Autocatalysis, enzyme catalysis and enzyme inhibition.

RECOMMENDED BOOKS

1. Physical Chemistry by Kundu, N and Jain, S.K.S. Chand and Company Ltd. 1984.
2. Fundamentals of chemical kinetics by Logan, S.R, Longman Group Ltd. 1996.
3. Elementry reaction kinetics by Latham.J.L. And Burgess, A.E.3rd Ed., Butterworths, London, 1977.
4. Physical chemistry by Atkins, P.W. 5th Ed., W.H.Freeman and Company, New York, 1994.
5. Physical Chemistry by Alberty, R.A. and Silbey. R.J., John Wiley, New York, 1995.
6. Physical chemistry by Engel, T. and Ried, P., 1st Ed., Pearson Education, Inc. 2006.
7. Hand book of surface and Colloid Chemistry by Birdi, K.S., CRC Press, 1997.
8. Heterogeneous Catalysis: Principles and applications by Bond, G.C., 2nd Ed., Oxford, Clarendon press, 1987.
9. Surfactants and interfacial Phenomena by Rosen, Milton J., John Wiley, New York, 1978.
10. Bhatti, H. N. and Farooqi, Z. H., Modern Physical Chemistry, Revised ed., Caravan Book House, (2014).