Devi Ahilya University, Indore
Syllabus for Ph.D. Course Work Common to All Subjects
(Applied Mathematics/ Applied Physics/ Applied Chemistry)
(Under Faculty of Engineering)

Paper –II: 1AMR02/1APR02/1ACR02 - Computer Applications **3 Credits**

MATLAB Basics
Introduction, Environment, Variables, Arrays, Operations, Branching and program design, Script and functions, Files, 2D and 3D Plotting, Advanced Concepts in MATLAB: Symbolic Mathematics.

MS Office and its Applications
File handling in window, various versions of MS Office, MS-Word: Text formatting, Mail merge, Macros, MS-Excel: Features, various formulas and functions, MS-Power point: Creating presentations and adding effects.

Study of Research and Data Analysis Tools
SPSS, NCSS, Mathematica, Maple, Mathcad, Maxima, CPLEX, LINGO, LINDO, TORA, AMPL, R, ROSE2, ROSETTA, Scilab, Differential Equation Solver, Origin, JCPDS, Reitveld refinement, Chemsketch, MOPAC, ChemDraw, etc.

Note: Study of any **ONE tool** from the above mentioned list in the relevant area is compulsory.

RECOMMENDED BOOKS:

1. Microsoft Office Word 2007: Complete Concepts and Techniques by Gary B. Shelly, Thomas J. Cashman, Misty E. Vermaat, Cengage Learning Inc.
2. How to do everything with Microsoft Office Excel 2007 by Guy Hart-Davis, McGraw Hill.
3. Learning Microsoft PowerPoint 2007 by Catherine Skintik, Pearson Education.
4. Programming with MATLAB for Engineers, Stephen J. Chapman, Cengage Learning.
5. MATLAB Website –http://www.mathworks.com

27-01-2018