5th Semester	RMN5D005	Computer Application in Mining	L-T-P 3-0-0	3 Credits

Module-I:

(10 Hours)

Overview of computer programming with reference to pseudo codes, C and C++ languages. Principles of plotting pixels and a brief introduction to lines and curves as orderly combinations of pixels.

Module-II:

(10 Hours)

Coordinate system of plotting Mine Survey data and the use of computer graphics for such plotting. Overview of the common well known software packages like Surpac, Intellimine, Crystal etc.

Module-III:

(14 Hours)

Introduction to computer applications in rock mechanics and support design, blast design, prediction and assessment of blasting results, mine ventilation calculations, dispatch scheduling and other mining applications. Scope and limitations of networking mine offices, stores, work shops etc. to enhance productivity and cost control.

Module-IV:

(12 Hours)

Application of System Simulation to study and solve mining problems. Modeling and simulation of mineral handling and mineral beneficiation systems. Overview of a few well known simulation packages to Mineral processing like JKSIMET, MODSIM etc.

Books:

[1] Fundamentals of Database Systems, Elmarsi and Navathe, 3rd edition, Wesley 2000

[2] CAD/CAM: Computer Aided Design and Manufacturing, Mikell P. Groover, Emory W. Zimmers, Jr., PHI India, 1989

[3] Stochastic Simulation, B. D. Ripley,Wiley & Sons, 1987

[4] Computer Simulations in Science and Technology Studies, Ahrweiler, Petra, Gilbert Nigel, and F. Ahrweiler, Springer Verlag, 1998

[5] Advances in Stochastic Simulation Methods, Balakrishnan, N. et. al., Birkhauser, 2000

[6] Simulation Fundamentals, Bennett, Brian., Prentice Hall, 1995

[7] Mineral Crushing and Grinding circuits, Simulation, A.J.Lynch, Elsevier, 2006

[8] Modeling and Simulation of Mineral Processing Systems, Peter R. King, 2001

[9] Mine Ventilation and Air Conditioning, Hartman, Wiley International, 1961

[10] Mine Environmental Engineering, V.S.Vutukuri& Lama, , Cambridge University Press 1986