Final State Exam Topics

Engineering Management MSc Program

**Management modul (for all specializations)**

1. Project environment, project planning (scope and value of the project, extensive research, questions which may impact a plan, project plan outline)
2. Cash flow patterns, Time Value of Money. Comparison of Future Value with Present Value. Interest rates, Effective annual rates. Annuities and the possibilities of their application.
3. Making investment decisions. Valuation methods based on present value calculation (features, differences, applications and limitations). Describe the criteria for making investment decisions.
4. Choosing among projects with identical lifetimes and different lifetimes. Cross-over rate. Equivalent annual benefit and equivalent annual cost. Evaluation of loans.
5. Transactions in financial markets: options transactions, Profit and Position functions. Interpreting and managing option rights. Put and Call options, deriving a composite position and profit function.
6. Project portfolio management.
7. Effective project leadership
8. Valuation of Bonds. Concept of Bond, types (perpetuities, growing perpetuities other types). Relationship between the bond prices, face value and interest rates. Yield to Maturity, Duration
9. Result Based Management. Project planning and measurement of project efficiency by Logical Framework.
10. Enterprise Resource Planning Systems. Functions of ERP, implementation process of ERP.
11. Total Quality Management. characteristics of TQM, quality improvement techniques (check sheet, Pareto-diagram, ABC/XYZ analyze)
12. LEAN Management. Concept of LEAN House, principles of LEAN.