

5. PRODUCTION AND OPERATIONS MANAGEMENT - [CC112] :

Objective: This course attempts to help students learn operations management systems and analysis issues pertaining to management of productivity, manufacturing technology, and facilities, operations planning and control and management of materials and quality.

Content: Introduction to production function, Product design and analysis, Capacity planning & investment decision, Facility location – single facility location problem & gravity location problem, Classification of plant layout, Line of balance, Material management & inventory control, Aggregate planning – nature, strategies, transportation method, Material requirement planning, production planning and control, Single machine scheduling – SPT, WMFT, EDD methods, minimising number of tardy jobs, parallel processors under single machine scheduling, Flow shop scheduling – Johnson's rule & its extension, CDS & Palmer's heuristic method, Project management – CPM, PERT, crashing of project, resource levelling and allocation techniques, Maintenance planning – objectives, types, reasons, replacement problem, simple probabilistic model for items which fail completely, Modern production management tools – JIT, CIM & FMS, six sigma, TQM, ISO 9000 & 14000, poka yoke, kaizen, BPR, lean mfg,