



Course Title: THEORY OF CONSTRAINTS LINKED MANAGEMENT

Course Code:

Credit Units: 3

Course Objectives:

This course is to familiarize students to the fundamentals of operational process analyses with a view to improving productivity and performance towards fulfilling the overall business goals. It is also to further enable them learn the concepts, principles, and application of the theory of constraints approach in this regard.

Pre-requisites:

Basic understanding of Operations Management

Student Learning Outcomes: After studying this course students shall be able to:

- Identify the constraints in organizational process.
- Estimate and express the constraints.
- Evaluate the performance after elevation of constraints.

Course Contents/Syllabus:

	Weightage (%)
Module I: Process Structure, and Selection	25
Descriptors/Topics Process Management Orientation in Operations; Processes and their functions, importance, objectives of analysis, methods; Interface with other disciplines; Product-process matrix, Production Process structures, Service Process structures.	
Module II: Examination of processes & Benchmarking	25
Descriptors/Topics Examination of processes; Parameters of Examination, Lead-time, Set-up time, Throughput Cycle, Cycle time; Performance Measurement System, Cost, Quality, Flexibility, Capability; Productivity and Profitability Improvement; Benchmarking.	
Module III: Understanding Theory of Constraints (TOC)	25

L	T	P/S	SW/F W	TOTAL CREDIT UNITS
3	-	-	-	3

Descriptors/Topics TOC thinking process; Current Reality Tree, The Evaporating Cloud, Future Reality Tree, Prerequisite Tree, Transition Tree: Application of thinking process tools; TOC and economic decisions, Throughput accounting measures for decision making.	
Module IV: Operations Improvements with Theory of Constraints	25
Descriptors/Topics TOC applications in operations improvement; Relating TOC to Project Management, Critical Chain project management; Production Scheduling with Drum-Buffer-Rope method; TOC in supply chain management, Drum-Buffer-Rope distribution solution.	

Pedagogy for Course Delivery:

The course pedagogy will include lectures, interactive class discussions, seminar presentations, and individual term paper assignment.

Lab/ Practical details, if applicable: NIL

List of Experiments: NIL

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
100		100

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	CT	TP	S	A	EE
Weightage (%)	10	10	05	05	70

Lab/ Practical/ Studio Assessment:

Continuous Assessment/Internal Assessment					End Term Examination		
Components (Drop down)							
Weightage (%)							

Text & References:

- Dettmer, W.H. (1997). Goldratt's Theory of Constraints, ASQ Quality press
- Goldratt, E.M. (1997). Critical Chain, Great Barrington, MA: North River Press
- Goldratt, E.M. (2008). The Goal II – It's Not Luck, Chennai: Productivity & Quality Publishing
- Goldratt, E.M. and J. Cox (2006). The Goal: A Process of Ongoing Improvement, Chennai: Productivity Quality Publishing
- Goldratt, E.M. Theory of Constraints, Great Barrington, MA: North River Press
- Goldratt, E.M., E. Schragenheim and C.A. Ptak (2000). Necessary But Not Sufficient, Great Barrington, MA: North River Press
- Keegan, R. and E. O'Kelley (2008). Applied Benchmarking for Competitiveness, Mumbai: Jaico
- Mukhopadhyay, S. K. (2008). Theory of Constraints, Mumbai: Jaico
- Stein, R.E. (1997). The Theory of Constraints – Application in Quality and Manufacturing, New York: Marcel Dekker

Any other Study Material: To be decided in class.