

Gautam Buddha University, Greater Noida

School of Engineering (Mechanical Engineering)

Degree	Course Name	Course Code	Marks:100
Integrated B. Tech. + M. Tech. / M.B.A.	Industrial Engineering	ME 310	SM+MT+ET 25+25+50
Semester	Credits	L-T-P	Exam.
VI	4	3-1-0	3 Hours

Unit - I

Introduction: History and development of industrial engineering; Role of industrial engineering in an organization; Production and productivity; Productivity measures; Productivity measurement models; Productivity improvement techniques; Types of production system. **(05 Hours)**

Unit - II

Work Study and Motion Study: Importance of work study; Concept of work content; Techniques of work measurement; Performance rating; Computation of standard time; Work sampling; Scope of method study; Steps involved in method study; Micro motion study; Memo motion study; Principles of motion economy. **(10 Hours)**

Unit - III

Plant Location; Layout and Material Handling: Importance of location; Location factors; Quantitative methods for evaluation of plant location; Plant layout factors; Types of manufacturing system; Types of layout; Material flow patterns; Elements of material handling; Principles of material handling; Selection of material handling equipment; Types of material handling equipments. **(10 Hours)**

Unit - IV

Inventory Planning and Control: Types of inventories; Inventory costs; Inventory models; safety stock; Inventory cost relationships. **(07 Hours)**

Unit - V

Human Factor Engineering: Objectives of human engineering; Human engineering areas; Man – machine systems; Anthropometry; Workplace design.

(07 Hours)

Unit - VI

Job Evaluation; Wages and Incentives: Objectives of job evaluation; Procedure for job evaluation; Job analysis; Job description; Job evaluating systems and merit ratings; Rational wage policy; Types of wage payments; Incentive schemes; Incentive plans. **(06 Hours)**

Recommended Book:

1. Industrial Engineering and Production Management; Martand Telsang; S. Chand.
2. Industrial Engineering & Management; O. P. Khanna; Dhanpat Rai and Sons
3. Modern Production Operations Management; E. S. Buffa; Wiley Eastern