

Course: Productivity Management (MSC 521): L-T-P : 3-0-0

Course Objectives: Productivity improvement in an enterprise is a function and a result of management efficiency, synonymous with good management. It is a prime management objective and responsibility to increase productivity. The objectives of this course is for students to acquire the fundamentals of productivity concepts, principles, tools, and techniques

Learning Outcomes: This course shall familiarize the student with various models of productivity in different situations. Students will be able to: calculate the basic work content, analyze the existing methods of working and develop an improved method, and calculate basic, allowed and standard time, of a specific job. The students will also be able to analyze and calculate the level of risk in the job causing stress, fatigue and musculoskeletal disorders and design appropriate work systems.

Content	Learning Outcome	L
Unit I: Introduction to Productivity Management : Concept of Productivity- Partial and Total Productivity, Models for Productivity measurement, Productivity management cycle, Causes for poor productivity in Indian industry	What is productivity? What is its significance? How to measure productivity? What are the causes of poor productivity?	6
Unit II: Work Study and Method Study : Steps for conducting method study, Charts and diagrams for conducting method study, Principles of motion economy, Threbligs	How do we select the work to be improved? How do we determine the standard method by which the work is done?	6
Unit III: Work Measurement techniques : Time Study, Work Measurement, Analytical estimation, etc. and their applications, Incentive Plans	How do we determine the time required to do the work using the standard method?	6
Unit IV: Introduction to Ergonomics : Significance, Manual work design, MSD, CTD, RSI, Common Causes, Signs, Symptoms, Cost	Why is it important to consider humans capabilities and limitations in design of method?	3
Unit V: Focus of Ergonomics : Administrative controls, Work practice controls, Design of workstations, Design of tools, Design of Work environment, Design of Cognitive work	How to design work considering human factors?	18
Text Books: 1. <i>Productivity engineering and management: productivity measurement, evaluation, planning, and improvement in manufacturing and service organizations</i> , Sumanth, D. J. (1984). . McGraw-Hill College. 2. <i>Niebel's methods, standards, and work design</i> (Vol. 700), Freivalds, A. (2009). Boston, Mass.: Mcgraw-Hill higher education. References: 1. <i>Motion and time study: design and measurement of work</i> , Ralph, M. B. (1980), John Wiley & Sons		