

Module I (10 hours)**Introductory Concepts**

Definition, objective and scope of work study and ergonomics and its historical background, Interrelationship between work study & ergonomics, role of work study & ergonomics in productivity improvement

Method Engineering

Definition, objectives and procedure of method analysis, Principles of motion economy and methodology of motion analysis.

Module II (10 hours)**Work Measurement**

Definition, objective and different methods of work measurement – stop watch time study, predetermined motion time system (PMTS)

Work Sampling

Principle, techniques and applications of work sampling studies

Module III (13 hours)**Job Evaluation and Merit Rating**

Definition, objectives and techniques of job evaluation and merit rating

Wages & Salary

Definition and principles of wage and salary administration, comparative study of incentive schemes

Ergonomics

Man – machine interaction, design of man-machine environment system, workstation design

TEXT BOOKS

1. Motion & Time Study Barnes Ralph. M., John Wiley & sons, 7th edition.
2. Work Study O. P. Khanna, Dhanpat Rai & sons, New Delhi
3. Motion and time study – principles and practice M.E.MUNDELpRENTICE Hall india pvt. Ltd.
4. Introduction to work Study – ILO
5. Human Factors in Engineering Design – E.J.McCormick, Tata McGrawHill
6. Hand book of Ergonomic Design – Martin Helender

LIST OF EXPERIMENTS

1. Measurement of cutting force in drilling.
2. Measurement of cutting force in milling.
3. Measurement of cutting force in turning.
4. Temperature measurement in turning.
5. Vibration study of machine tools.
6. Verification of Taylor's tool life equation.
7. Study of different types of chips.
8. Determination of shear angles.
9. Ring Compression test.
10. Determination of coefficient of friction by using compression tests.
11. Formability test-Ericsson cupping test.