

AMME19 MACHINE TOOL DESIGN

UNIT-1 INTRODUCTION TO MACHINE TOOL DRIVES AND MECHANISMS

- 1.1 Introduction to the course,
- 1.2 Working and Auxiliary Motions in Machine Tools,
- 1.3 Kinematics of Machine Tools, Motion Transmission.

UNIT-2 REGULATION OF SPEEDS AND FEEDS

- 2.1 Aim of Speed and Feed Regulation,
- 2.2 Stepped Regulation of Speeds, Multiple Speed Motors,
- 2.3 Ray Diagrams and Design Considerations, Design of Speed Gear Boxes, Feed Drives, And Feed Box Design.

UNIT-3 DESIGN OF MACHINE TOOL STRUCTURES:

- 3.1 Functions of Machine Tool Structures and their Requirements,
- 3.2 Design for Strength, Design for Rigidity, Materials for Machine Tool Structures,
- 3.3 Machine Tool Constructional Features, Beds and Housings, Columns and Tables,
- 3.4 Saddles and Carriages.

Reference Books:

1. Design of Machine Tools / D. K Pal, S. K. Basu / Oxford
2. Machine Tool Design, Vol. I, II, III and IV / N. S. Acherkhan / MIR

