

AMAG27 MECHANICS OF TILLAGE AND TRACTION

UNIT-1 INTRODUCTION

- 1.1 To mechanics of tillage tools, engineering properties of soil,
- 1.2 Principles and concepts, stress strain relationship.

UNIT-2 DESIGN OF TILLAGE TOOLS PRINCIPLES OF SOIL CUTTING

- 2.1 Design equation, force analysis,
- 2.2 Application of dimensional analysis in soil dynamics performance of tillage tools.

UNIT-3 INTRODUCTION TO TRACTION AND MECHANICS

- 3.1 Off road traction and mobility, traction model,
- 3.2 Traction improvement, traction prediction.

UNIT-4 TYRE SIZE

- 4.1 Tyre lug geometry and their effects,
- 4.2 Tyre testing, soil compaction and plant growth.

UNIT-5 VARIABILITY AND GEO STATISTIC

- 5.1 Application of GIS in soil dynamics.

Reference Books:

1. Mc Kyes.E. Soil Cutting. Elsevier Amsterdam.
2. William Lambe.T.Whiteman and Robert.V. Soil Mechanics. Wiley Eastern Ltd., New Delhi.