

CE/BOS/CE E42/0210

K L UNIVERSITY
GEOSYNTHETICS (09 – CE E42)

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SYLLABUS:

UNIT – 1 Geosynthetics

Introduction to Geosynthetics – Basic description – History – Manufacturing methods – Uses and Applications.

Properties and Testing Methods: Properties and Testing methods of Geotextiles – Geogrids – Geomembranes – Geocomposites.

UNIT – 2 Geotextiles

Designing for Separation – Reinforcement – Stabilization – Filtration – Drainage and Moisture barriers.

UNIT – 3 Geogrids

Designing for Reinforcement – Stabilization – Designing Gabions – Construction methods – Design of retaining walls.

UNIT- 4 Geomembranes

Survivability Requirements – Pond Liners – Covers for Reservoirs – Canal Liners – Landfill Liners – Caps and closures – Dams and Embankments.

UNIT- 5 Geocomposites

Geocomposites – An added advantage – Geocomposites in Separation – Reinforcement– Filtration – Geocomposites as Geoweb and Geocells – Sheet drains – Strip drains and Moisture barriers.

TEXT BOOKS:

1. “Engineering with Geosynthetics”, by G. Venkatappa Rao and GVS Suryanarayana Raju – Tata McGraw Hill Publishing Company Limited – New Delhi.

REFERENCE BOOKS:

1. “Designing with Geosynthetics by Robert M. Koerner Prantice Hall, Eaglewood cliffs, NJ 07632.
2. “Construction and Geotechnical Engineering using Synthetic Fabrics” by Robert M. Koerner and Joseph P. Welsh. John Willey and Sons, New York.
3. “Foundation Analysis and Design” by J.E. Bowles McGraw Hill Publications.