

2.9 30298 ADVANCED SURVEYING

UNIT-1 ELECTRONIC SURVEYING:

1. Basics – Historical development,
2. Methods of measuring distance, basic principles, classifications, applications and comparison with conventional surveying,
3. Propagation of electromagnetic waves, electromagnetic distance measuring system,
4. Study of different EDM instruments, computation of area, and setting out works, base line measurement EDM traversing, care and maintenance of EDM instruments
5. Gyrometer, applicability, uses constructional details.

UNIT-2 REMOTE SENSING:

1. Definition, history of remote sensing, abroad / India multi concepts, concepts of Scale, resolution,
2. Electromagnetic radiation (EMR), EMR interaction with atmosphere and earth materials, platforms,
3. Sensors, data transmission and storage, applications in Civil Engineering / Mining.

UNIT-3 GLOBAL POSITIONING SYSTEM & GIS:

1. Fundamentals, GPS observables and data processing, error correction, planning and realization of GPS observations, transformation of GPS results.
2. Map, Definitions, representations, point, line, polygon common coordinate system, map projections data entry, storage and maintenance,
3. Spatial and non-spatial, raster & vector formats, entering data in computer, digitizer, scanner data conversion,
4. Applications of GIS & GPS in civil Engineering, COGO geometry, digital terrain models.

UNIT-4 MINOR INSTRUMENTS:

1. Hand level, Clinometer, Pantograph, their function, Working principle & Advantages.

Reference Book:

1. The book is an indispensable resource for all civil engineers. Satheesh Gopi, R. Sathikumar, and N.

I.I.E