MANGALORE UNIVERSITY

DEPARTMENT OF MARINE GEOLOGY

MGP 456: HYDROGEOLOGY, GEO-STATISTICS & COMP APPL. (Lab)

Course Outcome:

CO1: Practical knowledge will help students to do field work related not only related to vast data of the earth and perhaps statistical tools to understand the system of changes.

CO2: Able to know different methods of collecting the hydrological information, which is essential, to understand surface and ground water hydrology.

CO3: To know the basic principles and movement of ground water and properties of ground water flow.

CO4: Basic knowledge of computation and measurements, and some knowledge on data sources and data analysis.

Hydrogeology (Lab, Soft Core)

1. Preparation of Isohyetal maps and calculation of depth of rainfall.
2. Calculation of Potential evapotranspiration.
3. Calculation of Actual evapotranspiration
4. Calculation of water budget/water balance.
5. Determination of aquifer parameters.
6. Calculation of Specific capacity of dug wells and bore wells.
7. Generation of hydrogeomorphological maps.
8. Generation of groundwater potential zone maps.

Geo-statistics and Computer Applications (Lab)

1. Mean, median and mode.
2. Quartiles, deciles and percentages.
3. Correlation co-efficient, regression analysis and skewness.
4. Measures of dispersion and other basic statistical parameters.
5. Cluster analysis, factor analysis and contouring.
6. Use of application software (MS Excel, SPSS, Minitab etc.) for graphical representation of statistical data and construction of bar diagrams, pie diagrams, rose diagrams histograms, scatter plots etc.
7. Programming languages and operating systems. Power Point slide preparation.
8. Computer aided design and graphics.
9. Components of a computer (hardware & software), Input-output devices (storage devices). Evolution of computers. Principles of data processing: Word processing,
10. Programming languages and operating systems. Flow chart, Algorithm.