SEM-6 [INTERNAL EXAMINATION]

MATHEMATICS, CORE - 13 (Metric Spaces and Complex Analysis)

Questions for assignment :-

1. Define Metric space with example. Define Cauchy sequences in metric space. ~~Prove that~~ If X is a Complete Metric space and $E \subseteq X$ then prove that E is complete iff E is closed.

2. Define Analytic functions and give its example. Establish Cauchy - Riemann equations.

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Mathematics, CORE - 14 (LINEAR ALGEBRA)

Questions for Assignment :-

1. Define Quotient space. Prove that Quotient space is a vector space.

2. Define Basis & Dimension of a vector space with examples. If W_1 & W_2 are two subspaces of a Finite dimensional vector space, then

$$\dim(W_1+W_2) = \dim. W_1 + \dim. W_2 - \dim.(W_1 \cap W_2)$$