

Subject: Math_I

Code: FRB 101

The program: All

Evaluation Type: Research Topic

Please read the following Notes:

I- The research language is English

II- In point c, the proposed problems must be not from solved examples in lectures

III- Similar researches are rejected and not accepted

IV- The number of pages is ten pages at most

V- The submitted file format is pdf.

VI- Write in the following researche:

Title: Eigenvalues and Eigenvectors of Matrices

Description: This research contains on the following points:

a- Definition, types and properties of matrices

b- Explain at least one application of the eigenvalues and eigenvectors of matrices

c- Solve at least three problems to find the eigenvalues and eigenvectors of matrix (the matrix with dimensions (3×3) or higher).

d- Prove that if the matrix A has an eigenvalue λ and eigenvector v , then the inverse matrix A^{-1} has an eigenvalue $\frac{1}{\lambda}$ and the same eigenvector.