

Subject: Mathematics I

Code: FRB 101

The program: All programs

Evaluation Type: Research Topic

Examiner: Dr. Mourad Semary

Please read carefully the following points:

- ❖ The research language is English
- ❖ All similar researches not accepted
- ❖ The number of pages is ten pages at most
- ❖ Use designated cover page of research type
- ❖ The submitted research file format is pdf file.
- ❖ The research must support by list of references
- ❖ In point c of each research, the proposed problems must be not from solved examples in lectures

Choose one only of the following researches:

Research (1)

Title: A survey on analytical methods for system of linear equations

Description: The research must contain the following points:

- a- Explain at least one engineering application related to system of linear equations
- b- Explain at least five analytical methods to solve system of linear equations

c- Solve at least one problem in each method of the methods mentioned in point (b)

Research (2)

Title: A survey on applications of matrices

Description: The research must contain the following points:

- a- Definition, types and properties of Matrices
 - b- Explain at least two applications of matrices
 - c- Solve at least two problems in each application of the applications mentioned in point (b)
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Research (3)

Title: A survey on applications of ordinary derivatives

Description: The research must contain the following points:

- a- Explain the concept of differentiation and rules of functions derivatives
 - b- Explain at least two applications of ordinary derivatives
 - c- Solve at least two problems in each application of the applications mentioned in point (b)
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Research (4)

Title: A survey on applications of Taylor series

Description: The research must contain the following points:

- a- Maclaurin and Taylor series theorem and use it to approximate any two functions as examples
- b- Explain at least two applications of Taylor series
- c- Solve at least two problems in each application of the applications mentioned in point (b)

Best wishes
Dr. Mourad Semary