Dedication

To those who brought us to life our beloved parents

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To those who assisted us in our study our respectable teachers

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To those who share us very joy and tear

Brothers

Friends

Colleagues

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To them all we dedicate this work

Acknowledgements

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Abestract:

We study the ring, field and we prove some theorems of homomorphism of a field and isomorphism between two rings. Define the field of fraction, the characteristic of fields. Field extension.

Also we study the transcendental and algebraic element. And we give some application geometry.

Finally we study the finite fields, Galois group and Galois extension.

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