GMA S2 01

Abstract Algebra and Discrete Mathematics

SEMESTER - II

Mathematics

BLOCK - 2



KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

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BLOCK INTRODUCTION

This is the second block of the course ;Abstract Algebra and Discrete Mathematics'. The block consists of six unit.

In ninth unit, we will discuss ring and its properties.

The tenth unit consists of Integral domains and Field. In this unit, you will know about properties of Integral domains and Field.

The eleventh unit deals with the concept of vector space. In this unit, we will discuss properties of vector space and subspace of a vector space. We will also discuss linear dependence and independence of a vactor space. Finally, we also define basis and dimension of a vector space in this unit.

The twelvth unit deals with the concept of combintorics. After going through this unit, you will be able to know permutations and combinations.

In thirteenth unit, we will discuss the concept of Mathematical logic. In this unit, we will discuss the different logical connectives.

The concept of Boolean Algebra will be discussed in the fourtheenth unit. In this unit, we will discuss some basic laws of Boolean Algebra and Boolean Expression.

While going through a unit, you wll notice some along side boxes, which have been included to help you know some of the difficult, unseen terms. At the end of each section, you will get "CHECK YOUR PROGRESS" questions. These have been designed to self-check your progress of study. It will be better if you solve the problems put in these boxes immediately after you go through the sections of the units and then match your answers with " ANSWERS TO CHECK YOUR PROGRESS" Given the end of each unit.

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UNIT 9: Ring **Page : 121-132**

Definitions and Examples of Rings, Properties of Ring.

UNIT 10: Integral domain & Field **Page : 133-140**

Integral domains, Field and their properties.

UNIT 11: Vector space **Page : 141-166**

Defintion and examples of vector space, Elementary properties, subspace of a vector space, Linear dependence and Independence, Basis and Dimension.

UNIT 12: Cominatorics **Page : 167-183**

The Rule of Sum, The Rule of product, Permutation, Combination.

UNIT 13: Mathematical Logic **Page : 184-201**

Definition of Statements, Examples of Statements, Logical Connectives : Negation, Conjunction, Disjunction Conditional, Biconditional.

UNIT 14: Boolean Algebra **Page : 102-232**

Definition, Properties and Examples, Basic Laws of Boolean Algebra, Boolean Expression.