

TABLE OF CONTENT

CHAPTER 1

EXPLORE ROBOTICS WITH THE LEGO EV3 AND GEARSBOT SOFTWARE

In this chapter, students will revisit fundamental concepts of robotics learned in previous grades, building a strong foundation for advanced topics covered later in the book.

CHAPTER 2

LEARN TO CODE AUTONOMOUS BOT WITH TURNING EFFECTS

Learn techniques for precise turning using robotics in EV3 and GearsBot.

CHAPTER 3

EXPLORE TOUCH SENSORS

Delve into the world of touch sensors and understand how they enable interaction between robots and the environment.

CHAPTER 4

TWO-TOUCH SENSOR PROJECTS

Program advanced projects using two-touch sensors for enhanced robot control.

CHAPTER 5

UNDERSTAND COLOR SENSOR AND ITS WORKING PRINCIPLES

Uncover the principles behind color sensors and learn how robots perceive and interact with colors.

CHAPTER 6

PROGRAM A LINE FOLLOWER ROBOT WITH COLOR SENSOR

Learn to program robots that follow lines using the technology of color sensor.

CHAPTER 7

EXPLORE ULTRASONIC SENSOR AND ITS WORKING PRINCIPLES

Delve into an ultrasonic sensor and discover its applications in robotics and automation.

CHAPTER 8

AN INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Gain insights into artificial intelligence (AI) and its transformative impact on technology and society.

TABLE OF CONTENT

CHAPTER 9

AI PROGRAMMING WITH mBLOCK SOFTWARE

Discover mBlock (Makeblock Education) coding platform providing an advantage to integrate technologies such as Machine Learning, the Internet of Things, and program many devices.

CHAPTER 10

CODE TO DRAW GEOMETRICAL SHAPES

Explore pen block within mBlock Software to code.

CHAPTER 11

CODE TO DRAW GEOMETRICAL PATTERNS

Explore variable block and my blocks within mBlock Software to code.

CHAPTER 12

PROGRAM TO DESIGN GAMES

Learn to program two sprites simultaneously with sound effects.

CHAPTER 13

LEARN TO PROGRAM A DYNAMIC GAME

Learn to program four sprites simultaneously to design a vigorous game of basketball using different mathematical operators.

CHAPTER 14

DEVELOP AN INTERACTIVE AIR WAR GAME - I

Program to design and animate an exciting air battle game.

CHAPTER 15

UPGRADE AND MAKE THE AIR WAR GAME MORE CHALLENGING

Enhance the game from the previous chapter by adding new features and logic to the entire program and completing the game.
