

## **Practical 12: NotebookLM Project**

**Aim:** To create revision notes using NotebookLM.

### **Objectives**

- To generate study guide
- To create flashcards

**Materials Required:** • NotebookLM

### **Procedure**

1. Create NotebookLM project – Start a new project in NotebookLM to organize your materials and AI-generated outputs in one workspace.
2. Upload two resources – Add two documents or sources to the project so the AI can analyze and reference them.
3. Generate study guide – Use NotebookLM's tools to create a structured study guide summarizing key concepts from the uploaded resources.
4. Generate flashcards – Automatically produce flashcards that highlight important facts, terms, or ideas for easier review.
5. Review accuracy – Carefully check the summaries and flashcards to ensure all information is correct and reflects the original resources.
6. Take screenshots – Capture screenshots of the study guide and flashcards to document your work or include them in your submission.

## Combined Study Guide:

Chat Studio > Report

Shift Registers and Sequential Logic: A Study Guide  
Based on 4 sources

Shift Registers and Sequential Logic: A Study Guide

Quiz: Short-Answer Questions

*Answer the following questions in 2-3 sentences each, based on the provided source material.*

- What is a shift register and what is its fundamental building block?
- Explain the primary purpose of Serial-In, Parallel-Out (SIPO) and Parallel-In, Serial-Out (PISO) shift registers.
- How can shift registers be used to perform simple arithmetic operations?
- Describe the difference between serial and parallel data transmission as it relates to registers.
- What distinguishes a universal shift register from other, more basic types of shift registers?
- In a Serial-In, Serial-Out (SISO) register, why does it take 'n' clock pulses to load n-bits but only 'n-1' additional pulses to read them all out?
- What is a Ring Counter, and how is its structure related to a standard shift register?
- Describe the "lock-out" problem that can affect ring counters.
- Explain the function of the "Shift/LOAD" control line in the design of a Parallel-In, Serial-Out (PISO) shift register.
- What is a Twisted Ring Counter (Johnson Counter) and how does its feedback mechanism differ from a standard Ring Counter?

## Flashcard:-

### Digital Flashcards

Based on 4 sources

Press "Space" to flip, "← / →" to navigate

What fundamental electronic components are connected in a cascade to form a shift register?

See answer



## Concept Explanation:-

### Architecture and Logic of Shift Registers

Based on 4 sources

