

# **Faculty of Engineering & Technology**

# **Electrical & Computer Engineering Department**

**ENCS333**

**Homework#3**

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# Question

## Summarize the IC Fabrication process.

## Sol:

1. Growing of a giant crystal of silicon.
2. Slicing it up into round wafers and polish them.
3. Coating of a wafer with a photographic chemical that hardens when exposed to light.
4. Taking a picture of a pattern to embed in the silicon.
5. Shrinking of the picture and shining a light through it.
6. Dipping of the wafer in acid to etch away the soft parts.
7. Repetition of steps 3 - 6 many times, producing layers of patterns etched into the wafer.
8. Cut up of the wafer into many rectangle chips.
9. Gluing of the chip into a plastic package.
10. Connection of chip parts to the pins of the package with tiny gold wires.
11. Putting of the chip on a tester machine and test running.
12. Assembly of different kinds of chips onto a board.
13. Installation of the board into a phone, computer...