

What is an Integrated Circuit (I.C.)

Explanation:

What is a circuit?! – C , R , L transistors wired together to perform specific function

A circuit Board is made up of many , different , circuits , wired together

Behavioural Model RTL

Do not care about physical reality

Testing algorithms

Testing pins/general functions

Can use C++,MATLAB , or a HDL

Testing

At final stage , if you don't test and block doesn't work....P45

A Simple Synchronous D-Type Flip Flop



SYNTHESIS

2 Steps :

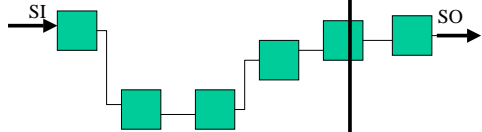
Translation

And

Optimisation

Translation : Transforms HDL to Gates

Optimisation: Select cells and libraries to
constrain design

<p>SCAN IN , SCAN OUT , TEST-ENABLE – all I/O's</p> <p>When TEST ENABLE asserted , the scannable sequence forms a “Scan Chain”</p> <ul style="list-style-type: none"> • a mechanism by which complete state of cct. Can be initialised (SCAN IN phase) • through which the state of the cct. Can be observed (SCAN OUT phase) 			<p>SCAN CHAIN</p> 	
---	--	--	---	--

Scan Test

- The SCAN IN input of a flop connects to chip level SCAN IN pin
- The SCAN IN of the remainder of scannable flops is connected to SCAN OUT of previous flops
- The final SCAN OUT is connected to

