

## Activity 1

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① The reasons for going for a full

custom IC design methodology, can be as follows :-

- The designer is working to develop the entire chip from scratch, so that he/she has full freedom in designing the IC.
- By going for a full custom IC design, the designer can aim for higher performance, lower power dissipation and better area utilization than other design styles.
- There is no constraint regarding time, as the full custom based IC design takes the highest design effort.

② If a particular component is missing and the time to market is a concern, the IC designer can go for a FPGA based design, where all the logical blocks and their interconnections are already present, and the designer only needs to program the interconnections.

The time taken and the design effort are low but the downside is that the performance and efficiency are lower than other design styles.

③ If a particular component is unavailable but the time to market is not a concern, then the IC designer can go for a full custom IC based design, where the designer has to design all the logical blocks from scratch. That will take higher design effort, but as time to market is not a concern, it will not cause any problem. On top of that, the designer has the opportunity to increase the performance and efficiency of the IC, compared to other design styles.