NSS COLLEGE OF ENGINEERING PALAKKAD

Govt. Aided College Affiliated to APJ Abdul Kalam Technological University

Approved by AICTE

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

EC304 VLSI

ASSIGNMENT - 2

TOPIC - CMOS INVERTER

Date of Submission - 30/04/2019 , 9 am - to be strictly adhered to

AY - **2018-19**   *Batch* - **S6EC**   *Faculty* - **VINOD G**

Important:*Give Detailed steps for each answers*

No. of questions: 3   *No. of pages:1*

Use the model file *C5_models.txt* **given along with this for your exercise given**

1. Design and simulate a minimum size inverter $\left(\dfrac{W}{L}\right)_N = 1$, with L = $0.7\mu m$. Take $\left(\dfrac{W}{L}\right)_P = 3\left(\dfrac{W}{L}\right)_N$. Plot the transfer characteristics for same. Find V_{IL}, V_{IH}, V_{OL}, & V_{OH} from the plot

2. For the inverter in question 1 change the $\dfrac{(W/L)_P}{(W/L)_N}$ to **15** and then to **30**. Plot the transfer characteristics. Observe the changes in the parameters listed in question 1 . Record your inferences

3. Layout the inverter in question 1. Verify whether your simulation of the layout agrees with the simulation of the design. If there are changes, give your observations.