Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **16PH2008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PHYSICS OF LINEAR INTEGRATED CIRCUITS & VLSI DESIGN** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Design the non-inverting subtracter circuit using operational amplifier to obtain the Vout. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Design and explain about the Inverting and Non-Inverting operational amplifier with neat diagram. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | Explain about the NMOS inverter circuit with pull up network as a resistor and Depletion NMOS transistor. | CO2 | 20 |
| (OR) | | | | |
| 4. |  | Elaborate the various steps involved in CMOS fabrication with neat diagram. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Discuss about the FPGA with neat diagram. | CO3 | 10 |
| b. | Discuss about the Hardware description Language in VLSI design. | CO3 | 10 |
| (OR) | | | | |
| 6. |  | Develop the inverter summing amplifier circuit using operational amplifier to obtain the Vout. | CO1 | 20 |
|  |  |  |  |  |
| 7. |  | Elaborate in detail about the Silicon On Insulator (SOI) technology with neat diagram. | CO2 | 20 |
| (OR) | | | | |
| 8. | a. | Evaluate the Finite state machine design for the specific application. | CO3 | 10 |
| b. | Explain in detail about importance of stick diagram and also draw the stick diagram of CMOS inverter. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain in detail about the Full Custom Design and Semi Custom design of VLSI technology. | CO2 | 20 |