M.Tech Course offered by
The West Bengal University of Technology

M.Tech in Microelectronics & VLSI Technology

There will be four semesters: First semester: Seminar will be a presentation of the proposal for the project work to be undertaken; In each of semesters 2 and 3, evaluation of the project to be done. Semester 4: Defence of the project.(Final semester may be dedicated entirely to completion of the project; collaborative work may also be undertaken).

Semester I: *Theoretical & Practical papers:*
1. Graph Theory and Combinatorics [Sem – 1] (PGVLSI101) *3(L) 0 (T) 2(P)* 70+30 =100 (S.G) Cr:4
2. Physics of CMOS Devices Sem -1] (PGVLSI102) *4 (L)*100 (S.K) Cr: 4
3. Advanced Computer Architecture and Organisation [Sem–1] (PGVLSI103)*3(L)0(T)2(P)* 70+30=100 (A.S.& D.B.) Cr:4
4. Microelectronics Technology [Sem – 1] (PGVLSI 104) *3(L) 0(T) 2(L)* 70+30=100 (Sanatan C + M.D+D.D.) Cr: 4
5. Logic Simulation & HDL (Laboratory)[Sem – 1] (PGVLSI194) *2(L) 1(T) 2(P)*100 {Sessional 60 + Viva – 40} (B.Ghosal) Cr: 4
    - **S**eminar: **Presentation of Project Proposal.**100   Cr:4
- Total Credit: 20

Semester II: Theoretical & Practical papers:
6. Analog Circuits and Systems : **[Sem – II]** *3(L) 0 (T) 2(P)* (*PGVLSI 201*) *3(L) 0 (T) 2(P)* 70 +30 =100   Cr:4
7.   Digital   Circuits   and Systems : CAD for VLSI Circuits & Systems (EDA)[Sem – 2] *(PGVLSI 202) 2 (L) 0(T) 2(P)*100   Cr:4
8.   Digital Signal Processing for VLSI Applications (*PGVLSI 202*) *3(L) 0 (T) 2(P)* 70+30=100   Cr:4
9. Digital Logic Testing & Verification Laboratory [Sem – 2] (*PGVLSI 294*) *0(L) 2 (T) 2(P)*100 {Sessional 70 + Viva – 30} Cr:4
10. IC Technology & Process Simulation Laboratory (TCAD)[Sem – 2] (*PGVLSI 295*) *2(L) 1(T) 2(P)*{Sessional 70 + Viva – 30} Cr:4
    **   Project – Part I.** [Sem – II] 100   Cr:4
- Total Credit: 20

Semester III: Elective Papers 301 & 302 Cr: 4 each + Project work. Cr:12

Elective Papers offered in groups:
1. A) Low Power Design Techniques & B) RF and Mixed Signal IC Design.
2. A) MEMS & NEMS & B) Advanced Electronic Materials
3. A) Embedded systems. & B) ASIC memory design.

Total Credit: 20

Semester IV: Project work.
Total Credit: 20

Total Credit: 20+20+20+20=80