# COURSE STRUCTURE & SYLLABUS for M. Tech

# VLSI & ES

# (Applicable for batches admitted from 2020 - 21)

**

**Godavari institute of Engg & Technology**

**Approved By AICTE NAAC’A+’ Grade Recognized by UCG, U/Sec.2(f)&12(B) Permanent affiliation by JNTUK**

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**I YEAR I SEMESTER W.E.F Acadamic year 2020-21**

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| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | | | **C** | **Scheme of Examination Maximum Marks** | | |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** |  | **PCC** | **RTL Simulation and Synthesis with PLDs** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **2** |  | **PCC** | **Microcontrollers Programmable Digital Signal Processors** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **3** |  | **PEC** | **Professional Elective – I**   1. **VLSI Technology and Design** 2. **VLSI Signal Processing** 3. **CAD of Digital System** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **4** |  | **PEC** | **Professional Elective – II**   1. **Programming Languages for Embedded Systems** 2. **Advanced Computer Architecture** 3. **Embedded System Design** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **5** |  | **MC** | **Research Methodology** | **2** | **0** | **0** | **2** | **40** | **60** | **100** |
| **6** |  | **AC** | **Audit Course -1** | **2** | **0** | **0** | **0** | **40\*** | **-** | **-** |
| **7** |  | **PCC** | **RTL Simulation and Synthesis with PLDs Lab** | **0** | **0** | **4** | **2** | **50** | **50** | **100** |
| **8** |  | **PCC** | **Microcontrollers and Programmable Digital Signal Processors Lab** | **0** | **0** | **4** | **2** | **50** | **50** | **100** |
| **TOTAL** | | | | **16** | **0** | **8** | **18** | **300** | **400** | **700** |

**I YEAR II SEMESTER W.E.F Acadamic year 2020-21**

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| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | | | **C** | **Scheme of Examination Maximum Marks** | | |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** |  | **PCC** | **Analog & Digital CMOS VLSI Design** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **2** |  | **PCC** | **Real Time Operating Systems** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **3** |  | **PEC** | **Professional Elective – III**   1. **System Design with Embedded Linux** 2. **Communication Buses & Interfaces** 3. **Hardware Software Co-Design** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **4** |  | **PEC** | **Professional Elective – IV**   1. **Physical Design Automation** 2. **SoC Design** 3. **Low Power VLSI Design** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **5** |  | **AC** | **Audit Course – 2** | **2** | **0** | **0** | **0** | **40\*** | **-** | **-** |
| **6** |  | **PCC** | **Analog & Digital CMOS VLSI Design Lab** | **0** | **0** | **4** | **2** | **50** | **50** | **100** |
| **7** |  | **PCC** | **Real Time Operating Systems Lab** | **0** | **0** | **4** | **2** | **50** | **50** | **100** |
| **8** |  | **ESC** | **Mini Project** | **0** | **0** | **4** | **2** | **100** | **-** | **100** |
| **TOTAL** | | | | **14** | **0** | **12** | **18** | **360** | **340** | **700** |

**II YEAR I SEMESTER W.E.F Acadamic year 2020-21**

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| **Sl. No.** | **Course Code** | **Course Category** | **Subject Title** | **Periods per week** | | | **C** | **Scheme of Examination**  **Maximum Marks** | | |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** |  | **PEC / MOOCS\*** | **Professional Elective – V**   1. **IOT and its Applications** 2. **Design for Testability** 3. **Artificial Intelligence** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **2** |  | **OEC / MOOCS\*** | 1. **Composite Materials** 2. **Cost Management of Engineering Projects** 3. **Machine Learning** 4. **Cyber Security** 5. **Energy Audit Conservation and Management** 6. **Utilization of Electrical Energy** 7. **Operations Research** 8. **Nano Technology** | **3** | **0** | **0** | **3** | **40** | **60** | **100** |
| **3** |  | **PR** | **Dissertation – I/Industrial Project**  *(to be continued and evaluated next sem)* | **0** | **0** | **20** | **10** | **-** | **-** | **-** |
| **TOTAL** | | | | **6** | **0** | **20** | **16** | **80** | **120** | **200** |

\*Students going for Industrial Project/Thesis will complete these courses through MOOCs.

**II YEAR II SEMESTER W.E.F Acadamic year 2020-21**

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| **Sl. No.** | **Course**  **Code** | **Course Category** | **Subject Title** | **Periods per week** | | | **C** | **Scheme of Examination**  **Maximum Marks** | | |
| **L** | **T** | **P** | **Int.** | **Ext.** | **Total** |
| **1** |  | **PR** | **Project/Dissertation – II** | **0** | **0** | **32** | **16** | **-** | **-** | **-** |

**Audit Course 1&2:**

1. English for Research Paper Writing
2. Disaster Management
3. Value Education
4. Constitution of India