**2015 – 2019 B.TECH**

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| **ADAMAS UNIVERSITY**  **SCHOOL OF ENGINEERING & TECHNOLOGY**  **UG PROGRAM: B.Tech in Computer Science & Engineering**  **SEMESTER I** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | MA1101 | Engineering Mathematics -I | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory | PH1103 | Engineering Physics -I | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory | CS1105 | Introduction to Computing | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory | CY1107 | Engineering Chemistry | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory | EE1109 | Fundamental of Electrical Engineering | 3 | 0 | 0 | 3 | 3 |
| 6 | Practical | PH1181 | Engineering Physics -I Lab | 0 | 0 | 3 | 3 | 2 |
| 7 | Practical | HU1183 | Communicative English Practices | 0 | 0 | 3 | 3 | 2 |
| 8 | Practical | CY1185 | Engineering Chemistry Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical | EE1187 | Electrical Engineering Lab | 0 | 0 | 3 | 3 | 2 |
| 10 | Practical | ME1189 | Mechanical Workshop | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **15** | **0** | **15** | **30** | **25** |

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| **ADAMAS UNIVERSITY**  **SCHOOL OF ENGINEERING & TECHNOLOGY**  **UG PROGRAM: B.Tech in Computer Science & Engineering**  **SEMESTER II** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | MA1102 | Engineering Mathematics - II | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory | PH1104 | Engineering Physics -II | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory | CS1106 | Data Structure | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory | ME1108 | Engineering Mechanics | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory | EC1110 | Fundamental of Electronics Engineering | 3 | 0 | 0 | 3 | 3 |
| 6 | Theory | CS1112 | Computer Programming | 3 | 0 | 0 | 3 | 3 |
| 7 | Practical | PH1182 | Engineering Physics -II Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | Practical | ME1184 | Engineering Graphics Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical | EC1186 | Electronics Engineering Lab | 0 | 0 | 3 | 3 | 2 |
| 10 | Practical | CS1188 | Computer Programming Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **18** | **0** | **12** | **30** | **26** |

**Engineering Mathematics-I: Calculus & Differential Equations**

**Engineering Mathematics–II: Linear Algebra, PDE, Complex Analysis**

**Total Credits (First Year): 51**

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| **ADAMAS UNIVERSITY**  **SCHOOL OF ENGINEERING & TECHNOLOGY**  **UG PROGRAM: B.Tech in Computer Science &Engineering**  **SEMESTER III** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | SMA42103 | Discrete Structures | 3 | 1 | 0 | 4 | 4 |
| 2 | Theory | EEE42103 | Energy Studies | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory | ECS42101 | Data Structures and Algorithms | 3 | 1 | 0 | 4 | 4 |
| 4 | Theory | EEC42109 | Digital Electronics | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory | EEC42111 | Signals & Networks | 3 | 0 | 0 | 3 | 3 |
| 6 | Practical | ECS42201 | Data Structures and Algorithms Lab | 0 | 0 | 3 | 3 | 2 |
| 7 | Practical | EEC42207 | Digital Electronics Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | Practical | EEC42209 | Signals & Networks Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **15** | **2** | **9** | **26** | **23** |

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| **SEMESTER IV** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | ECS42102 | Database Management System | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory | ECS42104 | Computer Organization and Operating System | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory | ECS42106 | Design and Analysis of Algorithms | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory | ECS42108 | Object Oriented Programming | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory | ECS42110 | Theory of Computation | 3 | 1 | 0 | 4 | 4 |
| 6 | Practical | ECS42202 | Database Management System Lab | 0 | 0 | 3 | 3 | 2 |
| 7 | Practical | ECS42204 | Operating System Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | Practical | ECS42206 | Design and Analysis of Algorithms Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical | ECS42208 | Object Oriented Programming Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **15** | **1** | **12** | **28** | **24** |

**Total Credits (Second Year): 47**

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| **ADAMAS UNIVERSITY**  **SCHOOL OF ENGINEERING & TECHNOLOGY**  **UG PROGRAM: B.Tech in Computer Science &Engineering**  **SEMESTER V** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | ECS43101 | Compiler Design | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory | ECS43103 | Computer Architecture | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory | ECS43105 | Computer Networks | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory | SGY43113 | Environmental Science | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory |  | Elective – I | 3 | 0 | 0 | 3 | 3 |
| 6 | Theory | HEC43181 | HSS-V (Financial Accounting) | 3 | 0 | 0 | 3 | 3 |
| 7 | Seminar | ECS43301 | Seminar | 0 | 2 | 0 | 2 | 2 |
| 8 | Practical | ECS43203 | Computer Architecture Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical | ECS43205 | Computer Networks Lab | 0 | 0 | 3 | 3 | 2 |
| 10 | Practical |  | Elective – I Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **18** | **2** | **9** | **29** | **26** |

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| **SEMESTER VI** | | | | | | | | |
| **S. No** | **Type of Course** | **Course Code** | **Course Title / Project** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | ECS43110 | Cryptography and Cyber Security | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory | ECS43104 | Software Engineering | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory | ECS43106 | Artificial Intelligence | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory |  | Elective –II | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory | MBA43144 | Management –I | 3 | 0 | 0 | 3 | 3 |
| 6 | Project | ECS43402 | Design/Mini Project | 0 | 0 | 3 | 3 | 2 |
| 7 | Practical | ECS43210 | Cryptography and Cyber Security Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | Practical | ECS43204 | Software Engineering Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical |  | Elective –II Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **15** | **0** | **12** | **27** | **23** |

**Total Credits (Third Year): 49**

**Elective I and II: From the list of Departmental Electives**

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| **ADAMAS UNIVERSITY**  **SCHOOL OF ENGINEERING & TECHNOLOGY**  **UG PROGRAM: B.Tech in Computer Science &Engineering**  **SEMESTER VII** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title / Project** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory | EEC44101 | Embedded Systems Design | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory |  | Elective – III | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory |  | Elective – IV | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory |  | Elective –V | 3 | 0 | 0 | 3 | 3 |
| 5 | Theory | HPS44101 | HSS-VI (Basics of Organizational Behaviors) | 3 | 0 | 0 | 3 | 3 |
| 6 | Project | ECS44401 | Project –I | 0 | 0 | 6 | 6 | 4 |
| 7 | Practical | EEC44201 | Embedded Systems Design Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | Practical |  | Elective –IV Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical |  | Elective –V Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **15** | **0** | **15** | **30** | **25** |

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| **SEMESTER VIII** | | | | | | | | |
| **Sl. No** | **Type of Course** | **Course Code** | **Course Title / Project / Viva** | **L** | **T** | **P** | **Contact**  **Hrs./Wk.** | **Credits** |
| 1 | Theory |  | Elective –VI | 3 | 0 | 0 | 3 | 3 |
| 2 | Theory |  | Elective –VII | 3 | 0 | 0 | 3 | 3 |
| 3 | Theory |  | Elective –VIII | 3 | 0 | 0 | 3 | 3 |
| 4 | Theory | MBA44142 | Entrepreneurship Development | 3 | 0 | 0 | 3 | 3 |
| 5 | Project | ECS44402 | Project –II | 0 | 0 | 12 | 12 | 8 |
| 7 | Viva | ECS44502 | Comprehensive Viva | 0 | 2 | 0 | 2 | 2 |
| 8 | Practical |  | Elective –VII Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | Practical |  | Elective –VIII Lab | 0 | 0 | 3 | 3 | 2 |
| **Total** | | | | **12** | **2** | **18** | **32** | **26** |

**HSS-VI: From a list of Psychology/Behavioral Science related topics**

**Elective V and VII: From a list of Departmental Electives**

**Total Credits (4th Year): 51**

**Total Credits (Over Four Years):198**

**List of Elective Papers:**

**Elective – I (Theory):**

**List of Electives (From B.Tech):**

**ECS43107** **Computer Graphics and Visualization**

**ECS43109** **Machine Learning**

**List of Electives (From M.Tech):**

**ECS61105** **Pattern Recognition**

**ECS61109** **Logic Programming**

**ECS61111** **Soft Computing**

**ECS61113** **Image and Video Processing**

**ECS61115** **Advanced Graph Theory**

**Elective – I (Lab):**

**List of Electives (From B.Tech):**

**ECS43207** **Computer Graphics and Visualization**  **Lab**

**ECS43209** **Machine Learning Lab**

**List of Electives (From M.Tech):**

**ECS61205** **Pattern Recognition Lab**

**ECS61209** **Logic Programming Lab**

**ECS61211** **Soft Computing Lab**

**ECS61213** **Image and Video Processing Lab**

**ECS61215** **Advanced Graph Theory Lab**

**Elective – II (Theory):**

**List of Electives (From B.Tech):**

**ECS61108** **Neural Network and Deep Learning**

**EEC43101 Microprocessors and Microcontrollers**

**List of Electives (From M.Tech):**

**ECS61104** **Advanced Database System**

**ECS61106** **Cloud Computing**

**ECS61110** **Advances in Compiler Design**

**ECS61116** **Computational Complexity**

**Elective – II (Lab):**

**List of Electives (From B.Tech):**

**ECS61208** **Neural Network and Deep Learning Lab**

**EEC43201 Microprocessors and Microcontrollers Lab**

**List of Electives (From M.Tech):**

**ECS61204** **Advanced Database System Lab**

**ECS61206** **Cloud Computing Lab**

**ECS61210** **Advances in Compiler Design Lab**

**ECS61216** **Computational Complexity Lab**

**Elective – III (Theory):**

**EEC44119** **Mobile Computing**

**SMA44101** **Number Theory**

**Elective – IV (Theory):**

**EEC43102** **VLSI System Design**

**EEE43115** **Control System**

**Elective – IV (Lab):**

**EEC43202** **VLSI System Design Lab**

**EEE43215** **Control System Lab**

**Elective – V (Theory):**

**List of Electives (From B.Tech):**

**ECS44103** **Computer Vision**

**List of Electives (From M.Tech):**

**ECS62101** **Cryptography & Cryptosystems**

**ECS62105** **Cyber Security**

**Elective – V (Lab):**

**List of Electives (From B.Tech):**

**ECS44201** **Compiler Design Lab**

**ECS44203** **Computer Vision Lab**

**List of Electives (From M.Tech):**

**ECS62201** **Cryptography & Cryptosystems Lab**

**ECS62205** **Cyber Security Lab**

**Elective – VI (Theory):**

**List of Electives (From B.Tech):**

**MBA61142** **E-Commerce**

**ECS61128** **Internet of Things**

**Elective – VII (Theory):**

**List of Electives (From B.Tech):**

**ECS44102** **Distributed Computing**

**ECS44104** **Information Retrieval**

**List of Electives (From M.Tech):**

**ECS61118** **Formal Systems**

**ECS61120** **Principles of Programming Languages**

**ECS61122** **High Performance Computer Architecture**

**ECS61124**  **Natural Language Processing**

**Elective – VII (Lab):**

**List of Electives (From B.Tech):**

**ECS44202** **Distributed Computing Lab**

**ECS44204** **Information Retrieval Lab**

**List of Electives (From M.Tech):**

**ECS61218** **Formal Systems Lab**

**ECS61220** **Principles of Programming Languages Lab**

**ECS61222** **High Performance Computer Architecture Lab**

**ECS61224**  **Natural Language Processing Lab**

**Elective – VIII (Theory):**

**SMA44102** **Numerical Analysis**

**SMA44104** **Operation Research**

**SPH44104 Medical Electronics**

**Elective – VIII (Lab):**

**SMA44202** **Numerical Analysis Lab**

**SMA44204** **Operation Research Lab**

**SPH44204 Medical Electronics Lab**