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| **Course – 39 Title: Microprocessor and Assembly Language Sessional** | |
| **Course No.: CIT 312 Credit : 1.50 Contact Hours: 3.0** | **Total Marks: 100** |

**11.1 Rationale:**

A computer engineer needs to gain practical knowledge to identify components of computing devices and design, manipulate the microprocessor and microcontroller.

**11.2 Objectives:**

1. To gain knowledge about microprocessors and peripherals of computing devices
2. To learn about programming language and relation (Assembly and machine language)
3. To know about the microcontroller and its associate components
4. To know the interfacing mechanism of microcontroller and others component using high level and assembly language

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| **11.3 Learning Outcomes** | **11.4 Course Content** | **11.5 Teaching Learning Strategy** | **11.6 Assessment Strategy** |
| 1. Identify different types of microprocessor 2. Identify different component and peripherals | Introduction to different types of microprocessors, | Demonstration | Identification |
| 1. Describe computer languages and its implementation 2. Apply assembly language program for solving problem | Machine and assembly language programming, Assembly language program writing, Opcode, Debugging and execution. Programming in Microcomputers. | Demonstration | Implementation  Exercise |
| 1. Describe the hardware and software interfacing 2. Design microprocessor based system, | Hardware and Software Interfacing in Microcomputer System Design, I/O Design and Total System Design, Microprocessor based system design: Hardware design, Building, Debugging | Demonstration | Implementation  Exercise |
| 1. Describe microcontroller 2. Describe Microcontroller based system design, Programming(Assembly & high level language), 3. Describe Interfacing with differ input output devices | Microcontroller: Intel 8031/8051 Architecture, Special Function Registers (SFR), I/O pins, ports and circuits, Instruction set, Addressing Modes, Assembly Language Programming. | Demonstration | Implementation  Exercise |

**RECOMMENDED BOOKS AND PERIODICALS**

**Text Books**: