**SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**QUESTION BANK**

**SCSA1701 CYBER PHYSICAL SYSTEMS**

**UNIT – II**

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| **S.No** | **PART-A** | **CO** | **Blooms Level** |
| 1 | Define Embedded Systems.  **An embedded system is a combination of computer hardware and software designed for a specific function. Embedded systems may also function within a larger system** | CO2 | L1 |
| 2 | What are the specifications of embedded system?  Structure-oriented models describe the system's physical modules and the interconnections between them. They are well-suited at describing a particular architecture, such as a four-processor implementation with shared memory and an eight-processor implementation with cross-bar communication | CO2 | L2 |
| 3 | Different abstraction levels in embedded system models. | CO2 | L3 |
| 4 | Steps involved in developing an embedded system. | CO2 | L3 |
| 5 | List out some examples for embedded systems.   * Digital cameras. * Digital wristwatches. * MP3 players * Temperature measurement systems. * Calculators. | CO2 | L2 |
| 6 | What are the components of an embedded system? | CO2 | L3 |
| 7 | What are the analysis techniques for decentralized computer architectures? | CO2 | L4 |
| 8 | Discuss about cyber physical system hardware platform. | CO2 | L5 |
| 9 | Describe Processors, Sensors, and Actuators.  **A processor is an integrated electronic circuit that performs the calculations that run a compute**  **A sensor is a device that detects and responds to some type of input from the physical environment.**  **An actuator is a component of a machine that is responsible for moving and controlling a mechanism or system** | CO2 | L3 |
| 10 | How does Real Time Operating System (RTOS) work?  RTOS pdf of your notes | CO2 | L4 |

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| **S.No** | **PART- B** | **CO** | **Blooms Level** |
| 1 | Discuss about Embedded Systems definition, specification, and languages in detail. | CO2 | L2 |
| 2 | Comment on different abstraction levels in embedded system models. | CO2 | L3 |
| 3 | Elaborate the Design, analysis techniques for decentralized computer architectures. | CO2 | L4 |
| 4 | Explain the cyber physical system hardware platform. | CO2 | L3 |
| 5 | Describe Real Time Operating System (RTOS) with an example. | CO2 | L5 |