**ALM-2- Class Test**

**Student Name:**

**Register Number:**

**Subject Code:**

**Subject Name:**

**Year & Section:**

**Date of Exam:**

**Duration: 90 mints**

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| S.No | Questions |
| 1 | Develop a classification chart of embedded systems based on generation, Size and Application. |
| 2 | Demonstrate the role of General Purpose and Domain Specific Processors, ASICs, PLDs. And also draw block diagram of each category. |
| 3 | Outline the outcomes of each stages of Top down approach for an Embedded Systems Design paradigm |
| 4 | Summarize the selection criteria for choosing a processor for an embedded system. And also on which phases of Top down approach it belongs. |
| 5 | Describe embedded systems applied in the automotive industry. And elaborate with a suitable example. |
| 6 | Explain the role of the oscillator unit in embedded systems and its impact on system performance. |
| 7 | Illustrate the integration of sensors and actuators in an embedded system. Using a practical example to illustrate their interaction. |
| 8 | Plan an Embedded systems majorly focuses memory storage. Create a list of advantages and limitations of all possible memory types used in the embedded system and choose a type for the application. And also shows that why you have chosen the type of memory. |
| 9 | Choose the Blinking of LED and explain with an Embedded C program of the following and argue your outcomes. (a) using the delay instruction (b) And the other is using timers. |
| 10 | Explain how PWM control work with motors? And also elaborate the advantages of using PWM for motor control. |
| 11 | Choose Memory selection strategies for Embedded Systems including factors such as speed, size, and power consumption. |
| 12 | Illustrate the integration of sensors and actuators in an embedded system, using a practical example and block diagram to illustrate their interaction. |
| 13 | Explain different types of memory used in embedded systems, highlighting their characteristics and applications. And also explain the concept of memory shadowing with a suitable example. |
| 14 | Explain the importance of timers, counters, and watchdog timers in maintaining the functionality and reliability of embedded systems. |
| 15 | Explain how oscillators and clock generation impact the timing, accuracy and synchronization in embedded systems. |

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**Course-Coordinator**