Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal
Second Semester Master of Engineering - ME (Embedded Systems) Degree Examination - May 2023

Embedded Systems [ESD 5202]

Marks: 100   **Duration: 180 mins.**

Wednesday, May 31, 2023

Answer all the questions.

1)	Q1. Explain software development flow, compilation flow diagram with necessary diagram. [TLO1.1L1]	(10)
2)	Explain how to identify the bit belong to given RAM byte with example. Also list the difference between bit band and bit banging. (8+2=10M)[TLO1.2L2]	(10)
3)	Explain briefly how pull up and pulldown configuration functions with necessary diagram.[TLO1.3L2]	(10)
4)	Explain timer I/ o registers with necessary diagram and its functionality.[TLO1.3L2]	(10)
5)	Write a program to receive the N number of byte. If odd numbered bytes received glow the LED with 300 mili second delay and if even numbered bytes received then glow the LED by 500 mili second delay. [TLO3.1L4]	(10)
6)	Write a program for a byte write using I2C with necessary diagram.[TLO2.1L4]	(10)
7)	Explain single ADC block diagram with features.[TLO2.1L2]	(10)
8)	. Explain briefly USB functional diagram.[TLO2.2L2]	(10)
9)	Explain the various CAN operating modes with necessary diagram.[TLO2.3L2]	(10)
10)	With example explain the task running using free RTOS with priority.[TLO3.1L2]	(10)

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