

Question Paper

Exam Date & Time: 18-Aug-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences, Manipal
Second Semester Master of Engineering - ME (Embedded Systems) Degree Examination(Makeup) - August 2022
Embedded Systems [ESD 5202]

Marks: 100

Duration: 180 mins.

Thursday, August 18, 2022

Answer all the questions.

- 1) With a neat diagram, explain the versions of ARM CORTEX series embedded Processor. (TLO1.1) (10 Marks) (10)
- 2) With neat diagram, explain the interfacing of LCD with ARM Cortex Microcontroller. (TLO2.2) (10 Marks) (10)
- 3) Explain ADC programming for LPC13xx/LPC17xx with neat examples. (TLO3.1) (10 Marks) (10)
- 4) Explain Interrupt Priority Grouping in ARM Cortex-M NVIC. (TLO 2.1) (10 Marks) (10)
- 5) Explain the Register and Special registers set in CORTEX-M3. (TLO 1.2)(10 Marks) (10)
- 6) With a neat diagram, explain the CORTEX M3 memory MAP. (TLO 2.1) (10 Marks) (10)
- 7) Explain the A simplified software development flow for ARM Cortex processor with a neat diagram. (TLO 2.1) (10 Marks) (10)
- 8) With a neat example, explain the task creation (with parameters) in FREERTOS (TLO5.1) (10 Marks) (10)
- 9) With neat diagram, explain the USB protocol and its four types of data transfers. (TLO 4.1) (10 Marks) (10)
- 10) With neat diagram, explain the Data Frame of CAN protocol. (TLO 4.1) (10 Marks) (10)

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