

Question Paper

Exam Date & Time: 01-Dec-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal
First Semester Master of Engineering - ME (Embedded Systems) Degree Examination - November / December 2023

Microcontrollers and its Applications [ESD 5103]

Marks: 100

Duration: 180 mins.

Friday, December 1, 2023

Answer all the questions.

- 1) Apply knowledge to explain With a neat Block Diagram of LPC 2148 (10) CO L3 (10)
- 2) Apply knowledge to Explain the memory map of LPC 2148. (10) CO1 - L3 (10)
- 3) Analyse With a neat diagram, explain and describe the Activation circuitry in ARM microcontroller. (10) CO2- L4 (10)
- 4) Analyse and evaluate With a neat diagram, to explain SWITCH and Bazar interfacing with ARM Microcontroller. (10) CO3- L4 (10)
- 5) Analyze and justify for Write neat code for generating 1 millisecond and 1 microsecond delay with the help of Timer module in ARM Microcontroller. (10) CO4 L5 (10)
- 6) Apply the knowledge and explain UART SFR's, Baud rate with necessary With a neat diagram,. (10) CO4 L3 (10)
- 7) Apply knowledge to Explain on the I2C protocol working and its data frame format. (10) CO3 - L3 (10)
- 8) Apply knowledge to Explain on the following a) Pull up b) Pull Down c) Baud Rate b) Bit Banging (10) CO4 - L3 (10)
- 9) Analyse With a neat diagram, explain the DAC module and its registers in ARM microcontroller (10) CO5 -L5 (10)
- 10) Anlayse the evaluate by writing a program : EINT1 connected to a switch is normally high. (10)
Whenever it goes low, it turns on the LED. The LED is connected to P1.18 and normally OFF.
When this LED turned on it stay on for second. Also switch is pressed low, the IED will glow. CO5 L5

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