Reg. No.									

MANIPAL UNIVERSITY
SCHOOL OF INFORMATION SCIENCES

SECOND SEMESTER MASTER OF ENGINEERING - **ME** (EMBEDDED AND WIRELESS TECHNOLOGY)
DEGREE EXAMINATION – APRIL / MAY 2016

SUBJECT: EWT 612 - ADVANCED MICROCONTROLLERS AND ITS APPLICATIONS

Monday, May 2, 2016

Time: 10.00 – 13.00 Hrs. Max. Marks: 100

1. Write short note on ARM Architecture versions and processors? Write comments on ARM processor Naming conventions? (7 + 3 = 10 marks)

2. Write short note on following registers with suitable examples
   a) R14 Link register (3 marks)
   b) R15 Program counter (2 marks)
   c) R13 Stack pointer (3 marks)
   d) R0 –R7 General Purpose registers (2 marks)

3. Write short note on Control Register of ARM Cortex m3 processor? (10 marks)

4. Write short note on features of NVIC of ARM Cortex m3 processor? (10 marks)

5. Write short note on ARM Cortex m3 processor Bus interface with suitable diagram? (10 marks)

6. Briefly explain about IF-THEN decision making structure with suitable examples? (10 marks)

7. Explain following instructions (2x5=10 marks)

a) BFC R0,#4,#8
b) BFI R1,R0,#8,#16
c) SBFX R1,R0,#8,#4
d) REVSH R2'
e) SXTB R1

8. Assume that Push button is interfaced to P0.8 and LED anode leg is connected to P1.22 of LPC 1769 Microcontroller. Write a C program using CMSIS Library to turn LED on when Push button is pressed or else Turn LED OFF.

(10 marks)

9. Briefly mention steps to be followed to configure UART peripheral of LPC 1769 Microcontroller?

(10 marks)

10. Write short note on Task Management using FREERTOS using suitable examples?

(10 marks)

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