1431

April 2025

Time - Three hours
(Maximum Marks: 100)

[*N.B.* 1. Answer all questions under Part-A. Each question carries 3 marks.

2. Answer all the questions either (a) or (b) in Part-B. Each question carries 14 marks.]

## PART - A

1. Define embedded system.

2. Write about little endian.

3. List out the features of thumb state instruction set.

4. What is meant by conditional execution?

5. Mention any three features of LPC 2148.

6. Write the function of PLL.

7. Define PWM.

8. What is the function of the timer/counter?

9. What is multitasking? Give an example.

10. Define semaphore.



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## PART – B

11. (a) Explain about the features and types of embedded system.

*(Or)*

(b) Describe the ARM based embedded system with block diagram.

12. (a) Explain about the ARM data processing instructions and branch instructions with examples.

*(Or)*

(b) Write an ARM processor assembly language program for addition and multiplication.

13. (a) Explain the block diagram of LPC 2148.

*(Or)*

(b) (i) Describe the function of VIC with its features. (10)
(ii) Write the nomenclature of ARM7TDMI-S processor. (4)

14. (a) List the features of ADC. Also explain about the ADC registers.

*(Or)*

(b) Describe the function of UART0 with block diagram.

15. (a) Write a note on the scheduling algorithms used in the RTOS.

*(Or)*

(b) Discuss the concept of Real Time Operating System (RTOS).

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