

983

October 2023

*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. What is meant by RISC?
2. What is meant by interrupt?
3. Write down the features of ARM instruction set.
4. Write an ARM assembly language program for subtraction.
5. List types of buses.
6. What is IRQ and FIQ of VIC?
7. Write down the features of PWM.
8. Write the features of UART.
9. What is an embedded OS?
10. What is pre emptive scheduling?

PART - B

11. (a) (i) Draw the block diagram of ARM based embedded system with hardware components and explain. (10)  
(ii) Write about Endianness. (4)

(Or)

- (b) (i) Explain the modes of operation of ARM. (10)  
(ii) What are the types of embedded system? (4)

12. (a) (i) Explain branch instructions. (10)  
(ii) Explain conditional execution with an example. (4)

(Or)

- (b) (i) Write an ARM assembly language program for addition and multiplication. (10)  
(ii) Write down the addressing modes of single register transfer of load store instructions. (4)

13. (a) Explain about LPC 2148 ARM controller with block diagram.

(Or)

- (b) (i) Explain memory re-map and boot block. (8)  
(ii) Draw Peripheral memory map. (6)

14. (a) Write down the registers of Pin connect block and explain.

(Or)

- (b) Draw the block diagram of Timer/counter and explain.

15. (a) Explain the soft and hard real time system.

(Or)

- (b) Explain the following tasks: dormant, ready, Running, interrupted and waiting for an event.

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