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Register No.:

April 2024

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. Compare Harvard architecture and Von-Neumann architecture.
2. Differentiate Little Endian and Big Endian.
3. Write the advantages of Thumb instruction set.
4. List out any three stack instructions in microcontroller.
5. List the types of buses.
6. List any three onchip peripheral devices of LPC 2148.
7. List the registers of GPIO.
8. Write down the features of PWM.
9. What is RTOS?
10. What is meant by re-entrant function?

PART – B

11. (a) Draw the data flow model of ARM and explain.
(Or)
- (b) (i) Compare RISC and CISC. (6)
(ii) Explain the types of memory used in ARM. (4)
(iii) Write down the types of controllers used with ARM based embedded system. (4)
12. (a) Explain about branch instructions.
(Or)
- (b) (i) Write an ARM assembly language program for multiplication and addition. (10)
(ii) Explain MOVE instruction with an example. (4)
13. (a) (i) Write down the features of LPC 2148. (10)
(ii) Write the details of onchip memory of LPC 2148. (4)
(Or)
- (b) (i) Explain external interrupts. (7)
(ii) Explain any four registers of VIC. (7)
14. (a) (i) Write down the features of DAC. (4)
(ii) List the registers of ADC. Also explain any three registers. (10)
(Or)
- (b) Draw the block diagram of Timer/counter and explain.
15. (a) (i) Explain non pre-emptive and pre-emptive scheduling. (10)
(ii) Explain the soft and hard real time system. (4)
(Or)
- (b) (i) Explain about context switching. (7)
(ii) Explain about Multitasking. (7)
