

ECM52 Embedded Systems

893

REG. NO

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Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (3 marks each)
 3. Answer any ONE question from each unit in PART-C (10 marks each)
 4. The question paper contains TWO Pages

PART-A (1x10=10)

1. Give the example for CISC.
2. What is the importance of pipe lining in a processor.
3. Why do we need interrupt in the processor.
4. Define SWAP instruction.
5. What are the SFR's used in GPIO.
6. Define Timer.
7. Define cache memory.
8. Write the importance of MMU.
9. Define multitasking.
10. What is scheduling.

PART-B (3x5=15)

UNIT-I

11. Distinguish between RISC and CISC.
12. Write short notes of Big Endian and Little Endian .

UNIT-II

13. Describe about IRQ and FIQ exceptions.
14. Write short notes on software interrupt.

UNIT-III

15. What are the features of I2C in LPC2148.
16. What is memory acceleration module.

UNIT-IV

17. Write short notes on stack and stack pointer.
18. Describe briefly about virtual memory.

UNIT-V

19. List the fundamental components of embedded OS.
20. Define Task and process.

UNIT-I

21. (i) What are all various modes of operation in ARM processor.
(ii) Draw the format for CPSR in ARM.
22. (i) Discuss about Registers in ARM processor.
(ii) Explain various interrupts in ARM processor.

UNIT-II

23. Explain the data processing instructions used in ARM processor.
24. (i) Develop an assembly code for performing simple subtraction in ARM.
(ii) Write various level of index in store instructions supported by ARM.

UNIT-III

25. Explain in detail about architecture of **U**ART with neat diagram.
26. Explain in detail about ADC in ARM processor.

UNIT-IV

27. Explain memory management unit in detail diagram.
28. (i) Discuss about set associative cache mechanism with suitable diagram.
(ii) Why do we need cache locking.

UNIT-V

29. Explain the various types of semaphore in details.
30. Briefly explain the various scheduling methods.
