Code No.: EC502PC   R20   H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–I–Semester End Examinations (Supply) - June- 2025
MICROPROCESSORS & MICROCONTROLLERS
(ECE)

[Time: 3 Hours]   **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks.

PART-A   (20 Marks)

1. a) How to calculate the Physical memory of 8086, with one example?   [2M]
   b) Draw the flag register bits in 8086 microprocessor.   [2M]
   c) List out the features of 8051 Microcontroller.   [2M]
   d) What are the different addressing modes used in 8051 microcontroller?   [2M]
   e) Write short notes on USB.   [2M]
   f) Give the RS 232 Standard details.   [2M]
   g) List out different 32-bit registers used in ARM processor.   [2M]
   h) List out few comparisons of ARM and 8051 Microcontroller.   [2M]
   i) Explain the different applications of OMAP processor.   [2M]
   j) Expand OMAP processor and its memory capacity.   [2M]

PART-B   (50 Marks)

2. What is memory segmentation? Explain the use of segmentation in 8086 microprocessor.   [10M]

OR

3. List out different string manipulation instructions used in 8086 microprocessor and explain each one in detail.   [10M]

4. What are the interrupts available in 8051? Explain about the Interrupt Structure.   [10M]

OR

5. Draw and explain the internal architecture of 8051 family microcontroller and explain each block of it.   [10M]

6. Draw the internal circuit diagram of UART and explain the function of each block in detail.   [10M]

OR

7. Draw the interface circuit diagram of LCD with 8051 and explain its operation in detail.   [10M]

8. Define Pipeline? Explain the Five stage pipeline concept in ARM processor.   [10M]

OR

9. Explain the concept of instruction set of ARM in detail.   [10M]

10. Explain the concept of super scalar pipeline of CORTEX processor along with circuit diagram.   [10M]

OR

11. Explain OMAP processor architecture and explain each one type in detail.   [10M]

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