



Q.P. Code :25313

[Time: 3 Hours]

[Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. Question no. 1 is compulsory
 2. Solve any three questions out of remaining questions.
 3. Figures to the right indicate full marks.
 4. Assume suitable data where necessary.

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| Q. 1 | a) Explain the concepts of Cortex-A, Cortex-R and Cortex-M. | 05 |
| | b) Compare instructions ACALL and LCALL of 8051. | 05 |
| | c) What is significance of RESET in microcontroller? How to implement manual and power on reset in 8051? | 05 |
| | d) Explain features of ARM 7. | 05 |
| Q. 2 | a) Explain memory management mechanism in ARM 7. | 10 |
| | b) Explain PORT 1 structure of 8051. | 10 |
| Q. 3 | a) Write an assembly language program for 8051 to arrange series of ten 8 bit numbers in ascending order. Series starts from memory address 2500H onwards. | 10 |
| | b) Interface DAC 0808 to 8051 and write assembly program to generate triangular waveform. | 10 |
| Q. 4 | a) Design 8051 based system with following specifications. | 10 |
| | i) 8051 is working at 10 MHz | |
| | ii) 8 KB External Program memory using 4 KB chips | |
| | iii) 16 KB External Data memory using 8 KB chips | |
| | b) Explain operating modes of ARM 7. | 10 |
| Q. 5 | a) Explain characteristics of Embedded System with examples. | 05 |
| | b) Explain Stepper motor controller as Embedded System. | 05 |
| | c) Explain addressing modes of ARM 7. | 10 |
| Q. 6 | a) Explain interrupt structure of 8051. | 10 |
| | b) Interface LCD to 8051 and write assembly language program to display message "HELLO" on it. | 10 |
