

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 TMOD register of 8051 microcontroller. | 04 |
| | b) Explain SCON register of 8051 microcontroller | 04 |
| | c) Explain Current Program Status Register of ARM7 | 03 |
| | d) Explain PUSH & POP instruction in 8051 microcontroller | 03 |
| | e) Explain Preindexed & Postindexed addressing mode of ARM7 | 03 |
| | f) List & Explain design metrics of Embedded Systems | 03 |
| Q. 2 | a) Interface ADC 0808 with 8051 microcontroller. Write Assembly language Program to convert analog signal which is available on channel No 6 to digital and store in memory location. | 10 |
| | b) Draw & Explain dataflow model of ARM7. | 10 |
| Q. 3 | a) Explain the Memory Interfacing of 8051 with 16K*8 Data RAM & 16K*8 Data ROM | 10 |
| | b) Write a program for 8051 microcontroller to generate square waveform of 1 st Hz & 50% duty cycle at pin P1.5. Assume 8051 is operating at frequency 11.059 MHz. | 10 |
| Q. 4 | a) Explain Internal RAM Organization of 8051 microcontroller. | 10 |
| | b) Explain following instructions of ARM7 | 10 |
| | 1. RSB r0, r1, r2 2. ORR r0, r1, r2 3. LDR r0, [r1, #2] 4. AND r1, r1, #3 | |
| | 5. CMP r0, r1, LSR #3 | |
| Q. 5 | a) Explain Operating modes of ARM7 Processor | 10 |
| | b) Discuss Digital camera as an Embedded System | 10 |
| Q. 6 | Write short notes on (Any Two) | 20 |
| | 1) Interrupt Structure in 8051 | |
| | 2) Serial communication in 8051 | |
| | 3) Addressing modes in 8051 | |
