May 19/

Chapter 1 –

1. Discuss the major application areas of an Embedded system. [ 5M]
2. Discuss various embedded microcontroller cores used in embedded System.- RICS,CISC,ARM and DSP [7 M]
3. Define embedded sys. Discuss various components of embedded system. [5M]
4. Design matrics of emvedded systems ? [5M]

Chapter 2 –

1. Explain the instructions of 8051 microcontroller – MOVX, ADC, SJMP, ANL, JNB [5M]
2. Write assembly language program for 8051 to find number of positive and negative numbers from a given ten 8 bit numbers stored from 50H. Store result at 60H (no of positive numbers) and 61H(no of negative numbers) [10M]
3. Explain the SFRs- TMOD, IE & SC [10M]
4. \*Discuss the interrupt structure of 8051 microcontroller. [8 M]
5. Compare AJMP<SJMP<LJMP instructions of 8051 [5M]
6. 
7. Explain hardware and software interrupts of 8051 [10M]
8. Explain the internal memory organization of 8051 [10M]
9. Explain the addressing modes of 8051 microcontroller [10M]
10. Serial communication of 8051. [5M]

Chapter 3 –

1. Draw the functional pin diagram of ADC 0808 [5M]
2. Draw and explain the functional block diagram of 8255 Programmable Peripheral Interface [10M]
3. E

Chapter 4 –

1. Explain the significance of bits of CPSR of ARM7. [5M]
2. Expain CPSR register of ARM7 processor [10M]
3. Discuss the various operating modes of ARM7 processor [10M]
4. Explain different addressing modes of single register load/store instruction of ARM7 processor
5. Explain the addressing modes of ARM7 processor.
6. Expain in detail ARM7 pipelining.

Chapter 5 –

1. Differentiate between Real-Time Operating System and General Purpose Operating System. [5M]
2. Briefly explain about Inter Process Communication [10M]
3. Demonstrate with example, the scheduling algorithms used in RTOS. [10M]
4. What is semaphore? Explain Mutex in RTOS. [5M]
5. Expain the brief Real Time os [5M]
6. Expain the timer/Counter of IC 8051.

Chapter 6 –

1. Compare the features of Arduino and Raspberry Pi embedded target boards [10M]
2. What are sensors used in IoT applications with the target embedded boards for measuring temperature , pressure and humidity? Explain the same. [5 M]

