

NB.: (1) All questions are compulsory.

(2) Make suitable assumptions wherever necessary and state the assumptions made.

(3) Answers to the same question must be written together.

(4) Numbers to the right indicate marks.

(5) Draw neat labeled diagrams wherever necessary.

(6) Use of Non-programmable calculators is allowed.

Q1. Answer the following (Any three)

[15]

- Write short note on classification of embedded system.
- Give difference between microprocessor and microcontroller.
- Explain PLD in detail with diagram?
- Explain what is Embedded firmware?
- Explain Non-operational quality attributes.
- Write short note on I2C.

Q2. Answer the following (Any three)

[15]

- Explain types of memory.
- Explain automotive as domain-specific embedded system.
- Write Short note on watchdog timer.
- Explain what is CRC with example.
- Explain device driver theory.
- Write short note address bus test.

Q3. Answer the following (Any three)

[15]

- What are data types in Embedded C ?
- Explain input/output pins of 8051 with pin diagram.
- Write short note on 8051 microcontroller hardware.
- Explain modes of timers
- Write short note on Logic Operators
- Explain in detail what is Data conversion?

Q4. Answer the following (Any three)

[15]

- Explain linking and debugging process in embedded program.
- Explain structure of embedded program.
- What factors are needed to be consider in selecting controller, explain in detail.
- Write short note on Main function.
- Explain design process of embedded system with 8051.
- What is infinite loop, explain with example program.

Q.5. Answer the following (Any three)

[15]

- a. Explain types of operating system.
- b. What is IDE, explain in detail.
- c. Write short note on disassembler and de-compiler.
- d. What are different trends in embedded system.
- e. Explain characteristics of Real-Time O.S.
- f. Write short note on emulator with example.

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