

Answer All Questions

QUESTION ONE:

1. List three base components that used for ES control operation?
2. Mention the ES basics Components?
3. Briefly illustrates the Embedded System application area”?

QUESTION TWO:

1. Mention microcontroller’s characteristics.
2. Due to the microcontrollers determine the following terms:
 - i. EPA
 - ii. FG
 - iii. PWM
3. Due to the ES classification differentiates between the following?
 - (a) Small Scale Embedded Systems (SSES)
 - (b) Sophisticated Embedded Systems (SES)

QUESTION THREE:

1. Using just a diagram to illustrate the following:
 - i. Simple microprocessor system diagram.
 - ii. Microcontroller Based System
2. Determine the basics microcontroller characteristics.
3. Due to the Embedded processors categories differentiate between the following types of model:
 - i. Ordinary microprocessors (μ P) or (GPP).
 - ii. Digital signal processor(DSP)
 - iii. Microcontrollers (μ C).

QUESTION FOUR:

1. List the main features needed in sophisticated embedded systems.
2. Explain why high processing speed needed in ES module for Encryption and deciphering algorithms.
3. Determine the most important DSP Features in ES model.

QUESTION FIVE:

1. Mention the main objectives for ES Software.
2. Due to the ES software compare between the following types:
 - a. Real Time Operating System (RTOS).
 - b. None Real Time Operating System (NRTOS).
3. Gives at least one example for each of the following ES-application domain :
 - i. *Consumer Application.*
 - ii. *Office Application.*
 - iii. *Communications.*
4. *Determine the Specific reliability issues in Embedded Systems.*

[End of Question Paper]

(Good Luck)

Eng: Babekir A. Rahman Osman