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Continuing Education Course #087
Embedded Systems
Analog, Digital, and Microcomputers

1. Modern Embedded Systems can contain:

- a. microcomputer capabilities,
- b. digital circuits,
- c. analog circuits,
- d. any combination of the above.

2. Digital Computers in Embedded Systems can be identified in 1920's technologies:

- a. True,
- b. False.

3. System components with discrete-time and discrete magnitudes are called digital:

- a. True,
- b. False.

4. System components with continuous-time and continuous magnitudes are called analog:

- a. True,
- b. False.

5. Modern Embedded Systems can contain:

- a. hardware,
- b. software,
- c. firmware,
- d. any combination of the above.

6. A Real-Time Operating System (OS) is required for all Embedded Systems:

- a. True,
- b. False.

7. A Hardware Description Language is required for all Embedded Systems:

- a. True,
- b. False.

8. The Open-Source Ptolemy II software tool is used for Engineering Systems Level simulations:

- a. True,
- b. False.

9. The MathWorks Simulink™ software tool is used for Engineering Systems Level simulations:

- a. True,
- b. False.

10. The ESL $\Delta\Sigma$ example is a mixed-mode Embedded System for simulation:
- a. True,
 - b. False.
11. The TI OMAP™ IC contains both the ARM microprocessor and a DSP microprocessor.
- a. True,
 - b. False.
12. The Cypress PSoC5™ IC contains.
- a. an ARM microprocessor,
 - b. configurable analog blocks,
 - c. configurable digital blocks,
 - d. a combination of the above.
13. Tools are available for automated C-code program generation from an ESL model:
- a. True,
 - b. False.
14. Tools are available for automated HDL-code generation from an ESL model:
- a. True,
 - b. False.
15. Open-source tools are available for manual C-code program generation:
- a. True,
 - b. False.
16. Open-source tools are available for manual HDL-code program generation:
- a. True,
 - b. False.
17. The PSoC5™ First Touch experimenter board bundle includes software tools:
- a. True,
 - b. False.
18. The PSoC5™ First Touch experimenter board bundle includes an accelerometer on-board:
- a. True,
 - b. False.
19. The PSoC5™ First Touch experimenter board bundle includes an accelerometer demonstration program
- a. True,
 - b. False.
20. The PSoC5™ contains a “native” $\Delta\Sigma$ converter:
- a. True,
 - b. False.
21. The TI OMAP™ BeagleBoard experimenter board includes an accelerometer on-board:
- a. True,
 - b. False.
22. The TI OMAP™ BeagleBoard experimenter board is a bundle and includes software tools:
- a. True,
 - b. False.

23. The MathWorks RT-Workshop™ tools support TI OMAP™ BeagleBoard experimenter board programming:

- a. True,
- b. False.

24. The MathWorks Simulink-HDL™ tools support TI OMAP™ BeagleBoard experimenter board HDL programming:

- a. True,
- b. False.

25. The MathWorks PolySpace™ tool supports both the TI OMAP™ BeagleBoard and PSoC5™ experimenter board for C-Code checking:

- a. True,
- b. False.

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