An important aspect of embedded system design is being able to communicate effectively using the technical vocabulary associated with embedded systems. You should be able to define and communicate using the following terms before the end of the semester.

1. Embedded System, Microprocessor, Microcontroller
2. SoC, Application Processor, GPU, ARM, Atom, IoT
3. RAM, SRAM, DRAM, NVRAM, DDR, DMA
4. ROM, EPROM, EEPROM, Flash Memory, OTP
5. Oscillator, Crystal, Start-up Time, Clock Oscillator
6. Clock, Race Condition, Glitch, Jitter, Eye Diagram
8. Noise, Ground Bounce, Noise Margin, Bus, Crosstalk
9. Transmission Line, Ringing, Reflections, Termination
10. EMI, EMC, Ground/Power Plane, Signal Integrity (SI)
11. CMOS, TTL, Logic Families, Switching Threshold
12. Totem-Pole Output, Open Collector/Open Drain Output
13. Fan-out, Fan-in, Pull-up/Pull-down Resistor, Floating
14. Contention, Drive Fight, Wire-OR/Wire-AND
15. Bypass/Decoupling Capacitor, ESR, ESL
16. In-rush Current, Voltage Droop, Power Integrity (PI)
17. Transistor, MOSFET, BJT, Beta, Saturation
18. Diode, Switching, Power, Zener, LED
19. Clamping Diode, Protection Diode, Leakage Current
20. Interrupt, NMI, Maskable, Edge/Level Triggered
21. Voltage Regulator, Thermal Grease, TIM, Heat Sink
22. Multiplexer, Multiplexed Address/Data
23. Buffer, Latch, Flip-Flop, State Machine
24. IC, ASIC, LSI, VLSI, Integration
25. Propagation Delay, Setup/Hold Time
26. Glue Logic, Chip Selects, PLD, FPGA, PAL/GAL
27. Address Decoding, Complete, Incomplete
28. Address Space, Memory Map, Aliasing, Ghosting
29. EPROM Emulator, Device Programmer
30. In-Circuit Emulator (ICE), Breakpoints, Traces
31. Debugger, JTAG, Scan Chain, Boundary Scan
32. Logic Analyzer, Pod, Disassembler, Trigger
33. ESD, Antistatic, Conductive, 'Walking Wounded'
34. Serial/Parallel Communication, SERDES
35. Asynchronous/Synchronous
36. RS-232, SPI, I2C, USB, IEEE 1394, IEEE 802.3
37. Op-Amp, Gain-Bandwidth Product, Slew Rate
38. Frequency Response, Unity Gain Buffer
39. Reconfigurable Logic, Platform FPGA
40. Cache, Pipeline, Embedded Core
41. Peripheral (PIC, PIT, LCD, etc.)
42. ADC, DAC, Resolution, Monotonic
43. Successive Approximation, Flash Conversion
44. Schematic, Wiring Diagram, Block Diagram, Layout
45. Wire-wrapping, Soldering, Cold Solder Joint
46. PCB, PCA, PWB, PWA, Via, Trace
47. Supervisory Circuit
48. Watchdog Timer, Low Voltage Detector
49. Transient Failures, Memory Hits, Signature Byte
50. Error Handling, ECC, EDC
51. RoHS, Pb Free, Green, EuP/ErP
52. Exception, Trap, Interrupt, IRQ
53. Vector Table, Reset Vector, Re vectored Interrupt
54. ISR, Interrupt Service Routine, Interrupt Handler
55. Build Process, Editor, Preprocessor, Compiler
56. Assembler, Disassembler, Inline Assembly
57. Linker, Linkage Editor, Resolving
58. Profiler, Optimizer, Types of Optimization
59. Simulator, Interpreter
60. Monitor, Debugger, Source Level Debug
61. Tracepoint, Trace Buffer
62. Target, BSP, Board Support Package, Host
63. IDE, Eclipse, Code::Blocks, make, makefile
64. Lint/Splint, Version Control, Code Review
65. Source Code, Object/Machine Code, Library
66. Relocatable Object Code, Reentrant
67. Stack, Heap, Stack Pointer, Mallc, Free
68. Register, Register Variable
69. Interrupt Masking, Priorities, Latency
70. OS, RTOS (VxWorks, FreeRTOS, etc.), Executive
71. Processes, Tasks, Multi-tasking, Deadline
72. Preemptive, Cooperative, Time Slice, Scheduling
73. Context Switch, Latency
74. Blocked, Deadlock, Priority Inversion, Round Robin
75. Interprocess Communication, Messages, Mailbox
76. Queues, Signals, Semaphores, Mutex
77. Critical Section, Atomic Operation/Instruction
78. Resource Protection
79. Firmware, Embedded Software, BIOS, Microcode
80. Initialization Code, 'C Machine', Boot, Startup, POST
81. Memory Test, Walking I's
82. Pointer, Dereferencing, Uninitialized
83. Main Loop, Infinite Loop
84. Interrupt Driven, Polling
85. Firmware State Machine
86. Big-Endian, Little Endian, Byte Order/Swapping
87. Native Word Size, Condition Codes
88. Globals, Locals, Scope, Initialized, uninitialized
89. Scoping of variables and functions
90. Binary, ASCII, Hex, Hex Records, Intel, Motorola
91. Unsigned/signed Variables
92. Function Prototype
93. Data Structures, Linked List, Struct, Union
94. FIFO, Circular Buffer, Lookup Table
95. Bandwidth, Throughput, Latency, Utilization
96. Floating Point, Coprocessor, Floating Point Library
97. Bank Switching
98. Switch Bounce, Software/Hardware Debouncing
99. Serial Interface, Bit Banging, I/O, GPIO
100. Testing - black box, white box, unit, regression
101. Code Review/Code Inspection
102. Encapsulation, Partitioning, Extern, Refactoring

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